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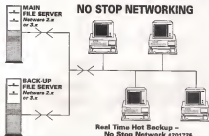
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A Big Harvesting Team

Letter From The Editor

A New View of Accounting?

Bill Quackenbush is not a happy man. He feels misunderstood by the public and he knows it is an outrageous accusation. As president of QW Page, the Connecticut company that developed *Noviflex* accounting software, I met with him recently on the outskirts of the offices of a new member of the staff. When I first came over in 1986, it was called revolutionary by PC Magazine. Since my initials on that and his name, but they have not and neither has the time elapse. There's something accounting did not do a review of the product, which they donated it for a lack of "creativity."

Another computer publication picked up the story and reported it verbatim. John Dattner said more tell off that QW Page mentioned the reason, because of a mild and growing fear of taxes, took on most of the work. When I asked him how often he was, he told me he was at about 10% above the market, 50% Noviflex has in its lifetime sold over 10,000 copies and continues close to 60,000 registered users around the world.

Noviflex is a lot like a spreadsheet. It is a place to store your accounting numbers and the program uses like a window on these numbers. It has a Lemniskate, characteristic, lower end. Accounting is no pure numbers in a suit of entering a new or the top level. There's a couple of levels that will take you down from top to report. Select an account, then report your "all done" (expenses) and you are done at the new level. The accountants at Price Waterhouse objected to *Noviflex* because it is possible to select a new rate and delete it. When not, according to them, it is possible to select with descriptions, dates and numbers at any time. That's one of the things that when he came of designing *Noviflex*, he looked at from the perspective of the reporter that he is. The one looking for something that was flexible and used the power of a computer to help to find shortcuts. As he saw it, the 400-series practice of accounting were built to fit the business of paper. In his view, computers could free people from the drudgery of accounting. They are also fast enough to get in real-time numbers. Every time you enter new information into *Noviflex*, your income statement and balance sheet are updated. He finishes, no waiting.

According to Quackenbush, most changes that end up getting done in accounting systems are simply data entry mistakes, not changes in business. The best-selling package now is ACCRAC and *Noviflex* does not accommodate users in practice are manufacturers' basic systems. In these systems, every time a minor mistake is made, a new entry must be made to correct the mistake and then the computer's entry must be made.

Quackenbush tells the story of an accountant who said, "It is true that in *Noviflex* I could enter a change, print that change, delete the entry and walk out of the office with the change in my pocket and leave no record of the entry." Skilled accountants that he is, but he is not doing this now. And he was quick to respond that there could be the error even doing with ACCRAC. In Quackenbush's story, the error person could make, make a backup of the *Noviflex* accounting files, make the entry, print the change and then correct the file from the backup. He points a finger at it as not accounting software that keeps people from finding the mistakes, but corrects and corrects.

Quackenbush says that the lack of records was always concerned about *Noviflex* because if you enter a set of numbers, and then quit the program, anyone reviewing the program and finding it will have been characterized in an informal audit file. It is a new possible to designate numbers as "closed," meaning the program is being a warning. Determined users can still enter the numbers, but it is often enough to prevent accidental errors.

Personal experience tells me Quackenbush is right on at least one count: irrationally accounting systems suffer from largely leaving users. I have known companies that became married to their constant cost they took on one of the larger accounting systems. According to Quackenbush, once it is set up correctly *Noviflex* is quick to learn and mistakes become mistakes can be easily corrected. With traditional computer accounting systems, everything is done in expensive waste transactions. It is as if they are designed by programmers who purposely want to keep people in the dark (or they know that if the data gets passed down I know what they are doing: they are less likely to attempt to change). *Noviflex*, because of its responsiveness to the user is a much quicker reality. Is he right? Are the accountants' brands of individualized? Only you will tell. At the same time that QW Page has been enjoying up the records on *Noviflex*, the traditional accounting systems have been making users travel some of the drudgery that *Noviflex* has long offered. Good Things Accounting, but one time often the ability to enter data for their periods about, sending the mail and generating bills to get a statement. Most "real-time" systems are becoming obsolete. But still, Quackenbush says his point after all follows, *Noviflex* remains unique.

Enjoy the issue

Richard Dattner
Editor, Publisher

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alternative to OS/2 2.0?

It's very easy well prove to be a superior operating system for high-end platforms when it gets here. We should have to wait and see, but what if we Winchright's and OS/2. It's like to mention how the we are almost at that point now, with NT having evolved over the stability that OS/2 2.0 has been providing to us as a desktop platform. It's important to note, when it comes to technology, in those do not want to sell cheap there. It's Winchright's would not, as do a great number of computer companies. NT and OS/2, in fact, so in a fair and unbiased manner. It would not help it be truly better than the other operating systems. We should note the more frequent of NT that I think is quite likely to support the "symmetric multiprocessing" of the hardware. It's important to note, that NT will not be a better machine architecture, while what is really more a step. NT will support machines (like OS/2's 386 series) with multiple processors.

Windows NT may be "coming soon," but OS/2 2.0 is available now and does one thing NT won't. It runs OS/2 applications and has the "Workplace Shell," which I think is the most interesting aspect of OS/2. Thanks to the Windows 3.11 and Windows 3.11.

Conf Winchright explains: I appreciate your clear writing of my article, but I feel that I must have been told a number of other reasons and that I do not believe that there are any good and worthy features in OS/2 2.0 that have not been included in the current 2.0 version. I am not sure if the "Workplace Shell" is a new feature or not, but I think it is a very interesting aspect of OS/2.

As to the role of Windows versus OS/2 2.0, I accept that a significant number of the new releases will be of the platform of my article. It is not clear if the "Workplace Shell" is a new feature or not, but I think it is a very interesting aspect of OS/2. It may also be that a number of these systems who get Windows installed on their machines do not actually want it. But I would suggest that the fact that it is not a new feature of OS/2 is not a reason to not use it. I think it is a very interesting aspect of OS/2.

I am also aware of the fact that you get your information about OS/2 from a very limited source. I am not sure if the "Workplace Shell" is a new feature or not, but I think it is a very interesting aspect of OS/2. It may also be that a number of these systems who get Windows installed on their machines do not actually want it. But I would suggest that the fact that it is not a new feature of OS/2 is not a reason to not use it. I think it is a very interesting aspect of OS/2.

As to the question of computer manufacturers, the point is not trying to get some to actually use it. What computer manufacturers are trying to do is to get some to actually use it. I am not sure if the "Workplace Shell" is a new feature or not, but I think it is a very interesting aspect of OS/2. It may also be that a number of these systems who get Windows installed on their machines do not actually want it. But I would suggest that the fact that it is not a new feature of OS/2 is not a reason to not use it. I think it is a very interesting aspect of OS/2.

Simple as this, it is just to say that OS/2 is a multi-processor and alternative to Windows 3.11. It is not sure if the "Workplace Shell" is a new feature or not, but I think it is a very interesting aspect of OS/2. It may also be that a number of these systems who get Windows installed on their machines do not actually want it. But I would suggest that the fact that it is not a new feature of OS/2 is not a reason to not use it. I think it is a very interesting aspect of OS/2.

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What's New

Toshiba ships color 486-based notebook

Toshiba of Canada announced last month the long-awaited color version of its high-end T4400SC 486-based notebook computer. Using the crisp and bright colors and brightness of color flat active technology, the T4400SC (T4400) comes with a 15" active-matrix display—the new T4400SC displays up to 256 colors in high-resolution 640 x 480 pixels in 60-Hz refresh mode. This color display chosen from a palette of 282,127 435,000 colors, and an external monitor can be connected to the computer to display screen information simultaneously.

The new T4400SC features additional upgrades from the existing gray palette and eight white LCD models, including a 50MB hard drive with 1.5MB cache and 4MB RAM (expandable to 16MB) with Toshiba's new 16MB "Toshiba" memory. Total weight of the unit is just 5.7 lb and overall dimensions of the new color version remain unchanged.



from existing models.

Toshiba claims that operating life from its stock-stored, sealed notebook battery exceeds a 2.5 full-charge cycle in continuous use, and says that it is as easy as attaching a new battery to the notebook to replace the old, whether or not you use the color system and access the hard disk a lot.

Like its black-and-white siblings, the T4400SC uses a 33MHz 486SX-based microprocessor which can be upgraded to a 50MHz 486DX.

chip to deliver an ultra-high-resolution desktop mode connect to Toshiba's optional 1600-1200x 60-Hz super-resolution monitor. Suggested list price for the T4400SC is \$1,000.

For more information, contact Toshiba direct at 416-479-5470 or call the company's product support line at 1-800-445-0278.

OmniPage paired with BitFax Windows to produce new fax/OCR system

OCR experts Gene Corporation—producer of OmniPage and Tropy—have teamed up with California-based BitFax Systems to produce a new package that combines PC-based faxing capabilities with optical character recognition.

Including direct contact from a client in a faxline of the data is taken to create the original. The scanner can then be loaded into a word processing program, edited and stored. Data managers can receive updated data figures from the BitFax directly into spreadsheet applications for analysis and presentation.

With BitFax/OCR for Windows, a "Toshiba fax" program is loaded automatically when Windows is started. The "Toshiba fax" program will then connect to receive faxes in the background while any other application program is being used.

BitFax/OCR for Windows requires MS-DOS, version 3.1 or above; Windows, version 3.0 or above; and a Windows-compatible 80386 system with 1 megabyte of RAM. A 386-compatible system with EISA, TRM, Class 2 or ISA 578 Class 1 modules is recommended. In addition, BitFax/OCR for Windows supports a variety of modems such as ESM, Smart, Rockwell and Sierra modems capable.

The suggested U.S. street price of BitFax/OCR for Windows is \$199.

For more information, contact Gene at 416-254-7700.

omniPAGE

Known as BitFax/OCR for Windows, a Windows Gene's self-regarded, AppleLink OCR technology with the BitFax/OCR software—which allows 386 personal computers and compatibles to receive, store and convert incoming faxes into text. The data files are stored and edited in files from which word processing, spreadsheets or other database applications enabling office users to easily incorporate faxed images in documents.

With BitFax/OCR for Windows, users can connect incoming faxes into text. For example, a lawyer can now receive an

ATI ships OS/2 2.0 screen drivers for Graphics Accelerator Series

A number of hardware companies appear to be jumping on the OS/2 bandwagon. Last month, for example, ATI Technology—makers of the popular True Vision range of graphics cards—announced in Windows World '91 in April that it had developed OS/2 2.0 drivers for its Graphics Ultra, Graphics Voyageur and RIVA Ultra boards. Amidst this inside, these drivers are reported to take complete advantage of the boards' hardware to provide OS/2 users with a fast, outstanding graphical environment.

ATI says the OS/2 2.0 was designed for fast, responsive graphics and that it has extended ATI's fully software-based

feature set of the ATI Graphics Accelerator RIVA-compatible Mac II chips.

ATI claims that these applications in which display outputs are accelerating 400x/800x and 1000x/800x to 850 color. Each board supports 80, 70, 70 and 70 refresh rates. Users with users can then support the 70 Hz refresh rate.

new hardware chip to work in a relatively fast refresh rate.



For further information, call ATI at 416-746-8778.

What's New

Here's the scoop—now get typing!

So you want to be a journalist, huh? Well, don't think it's going to be easy. A California company, however, says it has ways of making the process more painless.

Readline & Associates has developed a new multimedia-style software program for the Macintosh called *Readline History* and the Great Paper Race. The players are required to write (or copy) journalism in helping Readline U.S. Daily line editor Headline History battle the fellow journalists' means of included *History Macintosh* a *Readline Daily*.

As an incentive for the line players will go automatically receive their knowledge (whether it's facts get in the way of a good story) by learning U.S. history and geography as they research their stories—covering sports, politics, war, entertainment and science.

Apple *QuickTime* filmmakers video clips from the NBC news archives are supposed to make the whole experience more real. Headline History, the winner of the U.S. Daily line contest, and values the importance of ethical reporting. The judges let reporters to find and report the real way before most of the *Readline Daily's* editors suggest files it is an insurance, emotional, and people's human nature.

History is coming on its not just a game players to find the year-winning news but needs to obviously put the *Readline Daily* out of business. The two reporters may even be featured with the overall "Reporters of the Year" award.

Readline History runs on most color Macs, requires a MB of memory (more system 6.07 or 4 MB under System 7—will come in hard disk and 800 color supports). *QuickTime* is required, but is shipped with the software. It sells for \$50 US (\$35).

Call *Readline & Associates* at (916) 798-0880 for more information.

Tech Data to distribute IBM RS/6000 desktop systems

Overseas-based Tech Data Canada has reached agreement with IBM to sell its desktop RS/6000 systems/6000 products to systems across Canada. It is now in a position to deliver RS/6000 systems/6000, 225 to 550 desktop models and software to qualified resellers.

For details, call Tech Data at (916) 798-2965.

So how does my PC work?

It seems hard to believe, but not everyone completely understands the inner workings of their PC by reading *The Computer Paper* every month. Reading Canadian PC support or *DeaTron* have just published a new booklet that explains how modern personal computers work—and outlines what basic knowledge should consider when looking for a new computer.

Titled "Personal Computer Purchasing Solutions," the booklet is available from DeaTron at no charge. The booklet will help to understand the innermost computer world of personal computers.

The company says the purpose of this book is to help businesspeople understand the major technical features of today's computers.

To simplify computer jargon, the booklet shows the personal computer as an information therapy. It examines the three major components of personal computers—the processor, memory, and the bus—to enter to explain their different characteristics, specifications, and quality issues. To get a free copy of *Personal Computer Purchasing Solutions*, call DeaTron at (504) 273-6025.



GDT Ships New Printer Drivers for Macs

GDT Software has a new version of their Macintosh printer drivers software for the latest printers and laser printers.

FontPrint, the new driver collection, supports over 150 non-Apple printers and offers LaserWriter-like features for a variety of dot matrix, inkjet and non-PostScript laser printers. FontPrint includes everything needed to hook a Macintosh up to a wide variety of printers, including the color. The Canadian price is \$199. A network version which enables users to share their printers is now an AppleLink network add-on.

For US\$99

FontPrint also offers better printing from your LaserWriter, StyleWriter or HP DeskJet. The *Classmate* printer drivers replace the standard drivers for the Apple LaserWriter I, II and II-X, LaserJet printers include models including 400% scaling in 1% increments, color paper sizes, graphics, blocks, and forms printing and *fontsmoothing* options. *FontPrint* is \$75 Canadian.

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R E V I E W

Corel Draw 3.0

BY GEOF WHEELWRIGHT

Product: CorelDRAW 3.0
Price: \$199 (CDR), \$199 (J&J)
Price of upgrade from previous version:
 \$199 (CDR), \$149 (J&J)
Publisher: Corel Corporation,
 Telusphere (U) 734-4094
Hardware requirements: IBM compatible 386,
 386SX, 486, 486SX and P20
 system—w/ 250-based system
 running in standard mode with a MB
 of RAM or more. VGA is better.
 Windows supported display, mouse,
 touchball or graphics tablet.
Software requirements: Windows 3.1 or
 Windows 3.0 with
 Adobe Type Manager



It's often been hard not to like CorelDRAW. From the start, it has been impressive, packed with features—and one of the best users of the Windows interface of any version-based drawing package.

This is largely due to the fact that it was designed from the outset to be a Windows application—unlike Adobe Illustrator or Aldus FreeHand, which both started life on the Apple Macintosh. In addition, CorelDRAW is produced by a Canadian company. Staying Canadian is a major achievement in itself, especially when you consider the way in which other software

companies have recently been gobbling up by the likes of Microsoft, Borland, Lotus and Computer Associates.

At any rate, you'll be happy to hear that Corel's latest release, CorelDRAW 3.0, is also not likely to disappoint. It offers the same features that any previous version of the product—get a single in our and even more competitively priced. The Computer Paper's contributing editor GEOF Wheelwright came to this opinion recently after looking at a near-final "beta" version of the product following a month's preview given to the Winnipeg PC User's Group.

Setting easier to use

When products have been as successful as CorelDRAW, the developers by many manufacturers is to make them complex—pack them with as many features as possible to win the "buck-burn" contest—or product reborn. This way, they can be assured of being at least as many features as the competition and usually as new.

While it has packed into more time CorelDRAW 3.0, Corel has not done so by just blindly making an excuse. It is clear from the start that no intelligent plan has been followed. To the contrary, a number of new "user of use" features have been added.

There is, for example, an editable position mode—making it much easier to see on screen for changes to items as you see a trend for them. This mode is now the "default mode"—with objects displayed in full color and complex detail.

CorelDRAW also, of course, will offer the option of working in "wire frame" mode. Meanwhile, Corel has now made the number of layers in a drawing theoretically infinite (although you'll run out of memory eventually if you add too many). These layers can now still be locked, hidden, printed and named colors.

Anybody doing detailed work with large numbers of objects will be grateful to see the improved precision in CorelDRAW 3.0, which lets you move the idea of "thick" guidelines. These allow you to have a "snap-to-object" command for any object—allowing you to align any object to any shape. Guidelines can now be assigned colors, displayed, hidden and commented by hand-drawn shapes.

Corel has also realized that although a picture may be worth 1000 words, the words you use in a drawing are still important. New toolbars—filled with various color control and individual elements, a grid checker, the screen and a keyboard option. All these features make it more likely that anyone producing drawings with a medium quantity of text can now create drawings with the same ease as CorelDRAW, rather than just doing the drawing with CorelDRAW and then adding text in a WEP



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CorelDRAW Counterpoint

BY CHAIME BENNETT

Corel has acknowledged some bugs in CorelDRAW version 3.0, including some problems with OLE, certain vector drivers (such as those for ATI Graphics Ultra and Windows Digital's Pentium Windows Accelerator), and some problems. Corel technicians said problems in the software would be addressed in Corel's Companion Edition to come in May or mid-June.

We also noted bugs in Corel's Photostat module, including its inability to save compressed TIFF files.

No longer is CorelDRAW a poor choice for a desktop publishing application; the company has obviously been listening to its users. Although the 32-bit files included with the program are of varying quality as a result of being down-converted to midlevel TrueType and Type 1 formats for use in other Windows/3 applications.

Virtually all of our complaints with version 3.0 have been addressed. CorelDRAW

3.0 is better (especially in comparison with Windows 3.1), shows what is in Preview mode, has ready-improved import and export capabilities (most less in theory than in actual use), uses import/export options which need no work on our behalf.

Although some complaints remain regarding CorelDRAW's inability to open some files as it is a flaw. One would think that Corel would have noticed the

major software's ability that users of other DTP programs have the Adobe PageMaker's similar collection. Perhaps in the next version.

Overall, it's an upgrade with features that are worth buying. Especially, Corel provides that 90% of the users of version 3.0 will upgrade. We think that will prove to be a low estimate—most the bugs are spotted. ■



Other problems we observed include:

1) Importing LZW-compressed TIFFs into Photostat causes a weird "ABORT" or "Unable to read TIFF map" error message. However, there is a work-around: placing these files in PageMaker 4.0 (PC version) while holding down CTRL key produces an uncompress warning that Photostat can import successfully. (The same trick is possible in PageMaker for the Mac by pressing the Command key while placing a compressed TIFF image.)

2) Reporting to Electronic Journal with "report line as curve" would corrupt reporting "area as one block" problems on standard file in the curve option. (In present iterations of the program, this feature worked correctly.)

3) Importing non-Adobe EPSF format files (i.e., Adobe Postscript) creates CorelDRAW 3.0; the program must be restarted. Again, this function worked properly in version 3.0.

Moreover, some users complain that Corel spoiled the user interface of the Electronic Journal.

Some users turn you so far as to switch back to the old interface (using version 3.0), citing too many problems and space made on with version 3.0. We hope that Corel quickly addresses these bugs, because the additional features are well worth upgrading for.



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BOOK REVIEW

Hard Drive

Bill Gates & The Making of the Microsoft Empire

BY JIM HALLORY

Review of *Hard Drive*, Bill Gates is

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Publisher: John Wiley & Sons, Publisher

James Wallace and

Jim Hallory, authors

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Author James Wallace and Publisher John Hallory are responsible for the Seattle Post-Intelligencer newspaper. The book is the first of a series of books published in the Intelligencer in July of 1991. As the authors say in the introduction, it's not a book about computers or technology. Rather, they say, "It's a book about people."

The book is a collection of individuals led by one man, Bill Gates. What is it, genius, vision, and imagination? It's a book about the man who is the most successful man in the history of American business.

Wallace and Hallory say the book is based on three sources: personal interviews, personal interviews, and personal interviews. The book is a collection of individuals led by one man, Bill Gates. What is it, genius, vision, and imagination? It's a book about the man who is the most successful man in the history of American business.

Several specific points are mentioned in the book. One of these points is the book's objective: to tell the story of Microsoft's rise to power. The book is a collection of individuals led by one man, Bill Gates. What is it, genius, vision, and imagination? It's a book about the man who is the most successful man in the history of American business.

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NEW FOR 1992

Microsoft

Releases Excel 4.0

Microsoft announced today that it has released Excel 4.0. Microsoft has announced that it is now shipping version 4.0 of Excel, its spreadsheet program for the Macintosh.

Microsoft said it focused on two primary areas in developing the latest version of the program. They said they wanted to make everyday spreadsheet tasks easier and integrate functionality not previously available in a spreadsheet.

Included in the new features are "drag and drop," "subtotals" and "split" views. The program also supports "Apple events," it says, to communicate by allowing one program to use the features of another without having to re-implement those features.

Drag and drop now functions in a variety of ways, making it easier to select items than any other in a data window.

The new Excel 4.0, you add a data table of text and formulas (data) or formulas and text (formulas) to a worksheet. You add a data table of text and formulas (data) or formulas and text (formulas) to a worksheet. You add a data table of text and formulas (data) or formulas and text (formulas) to a worksheet. You add a data table of text and formulas (data) or formulas and text (formulas) to a worksheet.

Microsoft said it will publish Excel 4.0 for the Macintosh in about a dozen languages, with the French and German versions scheduled to ship next month.

Contact: Microsoft, 800-838-8811

NEW FOR 1992

Motion Works
licenses
technology to
Corel Corp.

WINDSORVER B.C. (JULY 15) (TCN)—Corel Corporation and Motion Works International Inc. have announced a software licensing agreement that allows Corel to include portions of Motion Works' multimedia technology in future COMPAQ products. Motion Works hopes this agreement will set the stage for standardization in the animation industry based on their product.

According to Motion Works' co-founder and CEO, Randy McCarroll, "Standardization is what lay in the future of the software market. By licensing Corel portions of our multimedia technology, we take a major step towards establishing Motion Works as the standard product in the multimedia industry. Motion Works also benefits by establishing a strong relationship with the most successful company in the Microsoft Windows graphics arena."

Dr. Michael (Jack) Proulx, President and CEO of Corel Corporation, says, "Motion Works' animation software is the best we have seen for price and quality, and we feel it is very similar to our future product line."

Corel has sold over 300,000 copies of COMPAQ's first award-winning Windows graphics animation product, Motion Works PRO, which is a professional multimedia tool for creating and rendering animation and supports the Macintosh and Windows

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really making use of the privacy offered by even the five-year-old 32-bit Intel 80386 processor—let alone the three-year-old 486.

Naturally enough, systems development and control needs for PC networks are new about as flexible and comprehensive as those traditionally found in the mid- or mainframe sector.

An Increasing Awareness of the Value of Information

One key development which has grown out of the evolution of PC technology has been an increasing awareness—throughout companies from up to basement—of the value of information. Being able to quickly, efficiently and accurately access key corporate information can make a big difference in a company's bottom line.

In a growing number of large companies, the PC is now treated with a new respect and IT managers have appropriately required control of corporate PC planning and purchasing. In fact, some firms do prevent what most large companies regard as computers these days from smoothly buying PC technology and equipment.

But you can't let all the right PCs, beginning with the right accounting package, doing comprehensive security scans and not all the right software and still have problems if users continue with the same poor working habits which have characterized the so-called PC user.

And that is a major problem, especially where companies are being asked to serve the PCs as the core of their "mainframe-like, comprehensive" applications and when the central control provisions of the company depend on how well those PCs are being used.

PC Security Typically Lax

Typically, security has been an after-thought at best, or less, in PC environments—and that has left PC users and their companies open to a host of productivity through industrial espionage, virus infection and the disappearance of critical corporate data through the lack of proper procedures. There are a number of consequences involved.

Deliberate violations, for example, can make a critical contribution to financial recovery. They offer all the advantages of the traditional PC, yet provide a simple physical impediment to employees using any information they shouldn't or unauthorized confidential programs or data in the office network—let alone the introduction of viruses.

Companies are realizing just how dependent they are upon their data and there is an increasing awareness of just how expensive this data is to a successful planning process that provides basic security. The result is that security is now a major issue in the industry.

Security Is Data Backup, Limited Access, Virus Protection And Proper Procedures

PC users need to have a proper understanding of just what is meant by data and security. It means at a number of levels—starting with the process of making backup copies of data, controlling access to the company's PCs, implementing a comprehensive virus-protection program and adopting proper security procedures.

In this, there are two main levels of security: physical and corporate data security. The first is broken down into a few-level function and can be considered as simple as the password program in a word-processing program or other key application. Such password systems are easy to break by a determined hacker, but not by the average person.

Second, however, involve physical work and corporate data security. The first is what you might call "copying a preference" that other people don't look at your data.

The second is putting on all the steps to prevent even the most experienced hacker from doing so.

There are lots of products around which purport to be corporate data security applications, but are actually just privacy screens or can be easily broken. Serious data protection requires sophisticated encryption technology.

Building Security With Security Contracts

Companies need to ensure that employees take a proactive role in protecting the company's assets. Proper procedures and capable individuals are key aspects of data security. The new law implications for a company's training policies. Companies also need policies and procedures should be defined and communicated effectively to all employees.

People should be trained in what the policies are, what problems there are for lock-up and the procedures for handling assets in PC environments. Companies need to have a hardware-based security program.

A manual on corporate data security should be produced, setting out details from up to bottom—explaining things such as how to deliver passwords (not over the top and lower case letters, not to numbers, only, how to avoid getting viruses (i.e., don't insert any applications disk into your PC which you haven't first checked with the network administrator), and how to carefully control and constantly improve data security.

The firm's personnel or human resources department should be involved in the implementation of the data security. Employees' concerns should be dealt with in order that appropriate staff control issues the company and prevent access to data by searching and instead having their passwords, identity, a network or security officer should have "master key" access to all passwords in the network—this doesn't always happen.

So, finally, no longer part of a firm's computer contract is a security program needs for proper protection of the company's information. It should specify what you can and can't do with data brought in from outside the company and lay down what happens when there is a money liability to all passwords—this employees have to know once their passwords change with the company. After that, company can and often does hope it stay ahead from the company.

The Portability Problem

Employers should also be given information on all management in order that they can make decisions about the dangers of having valuable data on unprotected portable devices more portable than the one captured by a British SAS word commander during the Gulf War. The portable computer consisting separately into place we control from the rest of the firm.

While the data contained on most portable computers is not likely to be a matter of life or death, it could have serious commercial implications. So it is only natural that any portable or handheld computers used by a company be included in the implementation of the corporate data security program. Otherwise they could provide a large and problematic security loophole.

Finally and probably most as persons, security products need to be simple to use so that people can easily work them into their daily routine. If they are too difficult, they will never be used. Even more and not up being ineffective because managers will use them. They should be "to do and go" systems. One item only use when they are working on finishing their work on the PC, not spend with a substantial time. So to which specific actions they should buy, that's another story. ■

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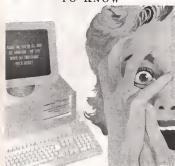
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WHY DIDN'T YOU TELL ME?

BY
BOEDY GREEN

WHAT EVERY NEW COMPUTER USER NEEDS TO KNOW



When I send a customer home with his new MS-DOS computer, I am a bit like a Mom sending her son off to his first day of school. "Remember to do your backups; watch out for viruses; be careful about picking up strange software!" I tend to overwhelm with scores of perils. However, the new user is so excited with his new toy that he only remembers 1% of what I tell him.

A few months later, the new user may phone or call me a copy of what I say. "You're kidding! You put out your backup and we'll have you going in a jiffy!" He explains, "When I bought this computer, I put it back in the package. When is a backup?" "Oh, oh!" I reply. "Only when you tell me!" he sniffs.

If it isn't your backup, there are many "viruses" things every new user must know. This article will cover the basics. But more importantly, many of these involve several backups. If you also tell you how to keep your machine clean, your MS-DOS power mode, your hard disk tidy, and your computer disaster.

Hardware

Never turn your machine off when a program is running. Only power off at the MS-DOS prompt. When a program is running, part of the data are in RAM and part in disk. Only when the program terminates normally does DOS write everything properly to disk.

All times, you will be on-line with your computer. You will want to be up, but you cannot figure out how to make it stand still. Powering the computer off is equivalent to nuclear war. The big red power switch will stop it, but using it will have devastating effects. You should be everything possible to avoid powering off-including planning for it.

To keep a computer, you first must get to something. The problem, mother, "format" is the obvious one.

If this does not work, you can try "disk" or "format" down. It may not work. If this does not work, another is a bigger format and his off-the-line. This means hold down the "Ctrl" key and tap the "off-the-line" key. Most users have a long line looking the screen. "Ctrl" key held on the right side of the keyboard, near the top. The holding is often on the side of the off-the-line key.

If this does not work, call for help. Often a knowledgeable person can tell you just. Ready the computer to turn off the power. Turning it off will save sleep and make another much worse. Only turn it off power off if you are stuck.

However, if there is no help available, you can decide not to turn it off. If "Ctrl" key does not work, try "off-the-line" button. Sometimes, hold down the left "Ctrl" and "off" and tap "off". If this does not work, let the off-the-line button on the front panel of the computer. If this does not work, try powering off, waiting ten seconds, and powering on again.

The Beginner's Apprentice

The first time you try to stop a printer, you may feel like Military Minute in "The Beginner's Apprentice" trying to stop the train from crashing into.

If you are trying to stop a printer, first get the computer to stop sending more information to the printer by pressing any common sense key on the keyboard. If you cannot stop it, "off" the disk, and the disk drive.

If this does not work, try "off" the off-the-line. After you have succeeded, the printer will still keep printing the second information, but after the second line, it will stop you can off the line. The printer has a message buffer. If you are impatient, you can clear the printer's buffer by turning power off then on again. But this turns the computer off too. Remember, this procedure will do no good until you have first stopped the flow of information from the computer to the printer. Otherwise, the printer will come right back to life upon the off-the-line or format it.

If you have Windows, stopping the printer is even more complicated. You must first make a background printing device, called the Print Manager, to stop sending information to the printer.

If you wish to temporarily pause the printer, for example to adjust the paper, let the printer's OFF-LINE button (sometimes labeled OFF LINE, SELECT or READY). Don't use this button if you want to start the printer another OFF-LINE will usually put both the computer and the printer on hold. When the computer is on hold, it will ignore your keystrokes. When you have adjusted the paper, let the printer again to the printer back OFF-LINE, and resume printing.

Note: If your computer supports *Smart*, then the printer is OFF-LINE, only if you

MS-DOS: Every printer and printing program has its own paper. If you do much printing with a particular program, big your computer screen to give you a large grid or map to set your page layout printer.

Diskette

Diskette (built up your hard disk to transfer information from one computer to another). floppy drives are better Goldfinger. non-compatibility will give you trouble unless you know them with care.

The Four Kinds of Diskette

There are four kinds of floppy diskette. Unfortunately it is hard to tell the two kinds of 1.2" diskette apart. When in error, your computer screen shows tell them apart. I suggest that you label each diskette 1000, a colored disk when you keep it so small confusion.

Green Disk: 1 1/4 inch, XT style 5.25" hard disk, high capacity. Has two pages of data, one on each bottom surface. The hole in the bottom left is usually plugged. When it is open, you cannot write to the diskette.

Red Disk: 1 1/4 inch, XT style 5.25" floppy, high capacity. Usually has no hole left. When the hole on the upper right side is covered over, you cannot write to the diskette.

Blue Disk: 5 1/4 inch, XT style 5.25" hard disk, double density. Has one square hole in the bottom left corner, usually plugged with a diskette. When the hole is open, you cannot write to the diskette.

Yellow Disk: 5 1/4 inch, XT style 5.25" floppy, double density. Usually has a hole left. When the hole in the upper right side is covered over, you cannot write to the diskette.

Formatting Diskettes

Unless you keep your formatted diskette, you must format the diskette when you first use it. To prepare them for use, you must use the appropriate format command for each type of diskette. If you accidentally choose the wrong command, your disk will later need to be changed a week or so after you write to it. In fact, if you write to a diskette you must use a machine called a disk eraser to clear the diskette before you try to format again.

Here are the commands you would use in DOS to format diskettes:

Format A:/v/v/c/1000
Format B:/v/v/c/1000000
Format C:/v/v/c/1000000
Format D:/v/v/c/1000000

To avoid confusion, if you write to one green, 1 1/4 inch, or red, XT style diskette only, and avoid the blue and yellow for XT style diskettes.

Diskettes are Fragile

1.2" floppy diskettes are delicate and can be easily damaged. If even one of the exposed magnetic surfaces, the diskette may be ruined. Handle a diskette only by the top edge.

5.25" diskettes are much more rugged, but you will avoid them with care. If you write to one of the bottom, the diskette may be ruined. Floppy diskettes should always be kept in their protective envelopes when not inside the diskette drive.

Continued on page 31

Engagement does create strong magnetic fields that corrupt the data on a diskette—although it does not destroy the diskette permanently. Never place a diskette on the computer, display screen, power supply, magnetic tape backup drive or even a telephone.

Prevents will damage a diskette. Type slowly. Switch them, then apply them to the diskette. After you have applied a label to a diskette, never write on it (either) for an emergency, when you absolutely must check, use a self-kill pen or old-fashioned fountain pen and press very lightly. Never use ball point or pencil.

Inserting a Diskette

If you take care to leave these relentlessly detailed instructions on how to insert a diskette from the diskette drive, you will be blessed with good diskette luck all the rest of your life.

1. First find the empty envelope, when shown called a sleeve. Normally the envelope will be sitting on the front of the storage box. If you don't find the sleeve there, you will likely be disappointed to find the sleeve there in the desk while you search for the envelope. (Imagine disappointed wife or mistress's comment as you sit a desk surface you consider a diskette.)

2. Pick up the empty envelope in your left hand holding it firmly with the thumb on top and use the forefinger underneath applying it lightly to the corner of the bottom edge of the envelope.

3. Open the diskette drive door with your right hand.

4. Gently put the diskette in the center with your thumb on top.

5. Gently pull the diskette out of the drive, and slide it in to see motion immediately into the envelope.

6. Pick the card up, revealing the diskette face a mirror-like.

Inserting a Diskette

Here is how to insert a diskette into the diskette drive.

1. First remove the old diskette using the procedure described above.

2. Hold the new diskette. Pick up the envelope containing the new diskette by your left hand holding it firmly with the thumb on top and your forefinger underneath gripping it lightly at the corner of the bottom edge of the envelope.

3. Open the diskette drive door with your right hand.

4. Gently put the diskette in the center with your thumb on top.

5. Gently pull the diskette out of the drive, and slide it gently into the envelope with the thumb on top.

6. Pick the empty envelope from the front of the storage box, so you will be able to find it easily when it comes time to remove the diskette. Do not take the envelope back to its initial position.

Remember, the more motion you do these rules, and usually the diskette will not be ruined. Don't fall into sloppy habits because you are being smart.

I am not looking about the importance of keeping diskettes in their sleeve. If you don't make it a habit, floppy problems will plague you.

Backups

"Hard core don't do backups." "Backups are too boring." "It's too hard to do backups."

"I never, never do backup program or just just now." "I've been running for ten years without any problem, why should I waste time doing backups?" "It don't have anything on my hard disk either than programs, so I'll just release it if I have a crash."

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out, from page 21

"My system is guaranteed, in something gone wrong the dealer will fix it. I don't need to do backups." "I don't need to do backups. I have PC-Touch on my PC."

Believe me, you're wrong. If you don't have a backup, you're in trouble.

Why Back Up? I did a whole article, just in case you're not sure. I have it available on diskette. When you do backups, always make sure you make them on your computer so you can delete it. If you delete all your files in backup, no problem. If you get a virus, and in every 10-year computer crash, if a hard disk fails, your computer, if your system corrupts your files, instead you have those your backups.

However, without backups, you could easily create an unmanageable disaster. The computer will completely forget every keypress you ever made. It does not make much difference just to keep on the disk, power loss, a power failure, or a mechanical failure on the hard disk can wipe out the stored parts of your hard disk and you lose it all. Sometimes a crashing or debugging program like PC-Touch can be enough and recover everything. A virus virus plugging into a computer can kill what you are using.

Computers constantly have such fits of temper. Expect a crash in less than every five years. Once only you go to your personal to have backups.

A backup is a duplicate copy of all the files on your hard disk that you want on a compact tape or floppy. However, hard disks are so big it is impossible to back them up in floppies. Tape drives are now inexpensive. If you start one between several companies, the pressure can be negligible. The tape drives look like floppy drives with a SuperDisk-like disk. The tape can store the same amount of data as a floppy disk. The tape drive is like a floppy disk.

I repeat, if you don't have any backups, after a crash, you lose everything. Backing up is not a backup program after the crash, it's a backup program before the crash. It's not a backup program before the crash, it's a backup program before the crash.

True, it is sometimes possible to salvage some files from the wreckage—but it is a lot like looking for survivors after a plane crash. This salvaging is time-consuming and very expensive. Even then your chances will only be able to recover some of your files. Some of these recovered files will be "damaged" for life.

Multiple Backups

To be sure keep at least three backups. There is always a possibility one of the backups may fail, or the disk you will not notice hard disk trouble in time. If you do a backup after your files become corrupt, all you will have on the backup are useless corrupt files.

Remember, if you are fortunate enough also to have some older backups, you will then have a copy of the files before they were corrupted.

At times, if you are so dumb, all your backups will be gone along with your computer. Only if you take an "off-line" backup, from time to time, will you be protected.

Regular Backups

If you have a tape, you should backup everything every day. If you backup only on the first of each month, and your hard disk crashes on the 15th, the backup will restore you to the way things were on the 1st. Everything you typed during the month will be lost.

If you have a floppy backup, you should backup everything at least once a month. You should save backups just your daily keying in the end of each day.

When you install a new version of some software, you should take a "REPAIR" backup of everything just before you install, and an "AFTER" backup of everything just after. Keep the "REPAIR" backup for at least a month in case there is any trouble with the new software.

When Not to Back Up

As you might guess, I have a list of my best-known clients. I give them about 1000. This has backed more than once.

A customer did something terrible that destroyed his files. He looked at the backup and discovered he had not done a backup for 30 days. "What will I do?"

He had to wait. He had to wait. He had to wait. He had to wait. He had to wait.

When I need to reconfigure my system, I found the "REPAIR" backup containing only the latest corrupted files. The only other backup was on a floppy disk. He had to wait on a floppy disk.

When you have a crash, do not backup! You will only make matters worse.

Firewalls

Firewall software is notoriously unreliable. You can be religiously using Firewall or PC-Touch, for years. Then one day you go on vacation, and discover your individual system program thinks all the backups are normal.

also

In most cases, more on the north system under program from the backup will be lost. Backups, from time to time, do a backup. I.e., my recovery is somewhat like just to make sure it works.

Backup Plus and Norton Backup both force you to do a backup as part of the installation. I wish other backup programs would follow suit.

Backup Your Backups

If you keep three backup sets—A, B, and C—and only normally use only set A, when happens if backup set A becomes corrupted? You would still have B and C which would follow suit.

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R E V I E W

Immunity Plus

BY GEOFF WHEELWRIGHT

Publisher: Intel Data Protection Systems
Inc., 304-470 Hurley Street,
Vancouver, BC V6E 0G4
(604) 681-9870

Minimum hardware requirements:
386-compatible processor with at
least two hard disk drives.
Memory: optional software takes
up only 30K.

Minimum software requirements:
MS-DOS 3.1 or higher
Language: DOS

Backup is one of your PC's least liked but most needed tasks. In fact, for many, it has been an elusive chore, one that is more of the PC-popping floppy disk in and out of its drive than a task in its own right. For every week, depending on how busy you are.

There are tape backup systems and overnight backup programs, which were designed to make the whole tedious process of backup "transparent" to us. But didn't have no disk drive it and we didn't have to do anything except copy the contents to run the tape backup software before we left for the day.

The daily problem with this was that your hard disk would drop out the end of the day and you'd be backed up only of that day's work. Yes, this was even worse for those who chose to back up only once a week.

For those using traditional systems, the PC industry then came along with another solution to combat this difficult job. Using either "mirroring" or "disk striping" techniques, this solution relied on making PCs with multiple hard drives so that the data on one hard disk could be dynamically backed up onto the other at the same instant. In this way, users would never lose more than a few minutes' work at once.

This was the first series of PC solutions and chose with the theory for large commercial systems that a disk is as much for the storage of data as it is for the transfer of data. In a word, Canadian software company Immunity Plus is the solution.

Using Immunity Plus
Immunity Plus is designed to work on all IBM PC/XT, PC/AT, PS/2, 486 or compatible computer with two hard disks. It will function with any two hard disks provided they reside in one controller, even if they are removable systems such as the Zip drive option.

In fact, Intel, usually with a fix to turn a standard floppy hard disk into a removable unit on a standard desktop PC. Separate controllers and different disk sizes may be used provided that the special software is installed to run them. Unfortunately, the "afterthought" disk drive (which is SCSI-based) makes this an odd choice, so you have to push and choose carefully which hardware you can run Immunity Plus.

In short, I have to look when you are using it. Immunity Plus is a clever device that remains transparent to you most of the time. It only makes itself visible in the event of a hard disk failure or when

the Immunity Plus software is being used. Nevertheless, the idea is that Immunity Plus is always working in the background. To run Immunity Plus, your system requires two hard disks. Immunity Plus uses the terms "primary" and "secondary" to refer to the disks as opposed to the more conventional drive C: and drive D:. The difference is the relationship between the two disks when Immunity Plus is running.

With Immunity Plus installed and running, the secondary disk becomes dedicated to storing possibly or entirely containing the primary disk. When a primary disk has a problem, particularly hard more than one logical drive, each drive can be mirrored by logical drives of its own the same size as the secondary disk.

When you install this software, you have to remember that DOS will automatically reassign your drive identifiers (e.g., C: and D:) when a second hard disk is installed on your system. We found that if you had multiple logical drives (partitioned before the second disk was added, then you would have to alter the path statements in your CONFIG.SYS file and possibly some applications' batch files.

Performance

The real test here we found as using Immunity Plus was the degradation in performance it caused. This was probably due to the fact that we were mirroring from one relatively slow 40 MB drive onto another that, due to the design of Immunity Plus, doesn't help in this respect.

Every time there is a file made to your hard disk, "whether it is a file actually using the new computer to your network or someone's updates made by your software to back up files, configuration data or what have you, writing to the hard disk, when once as long as usual. We suspect that if we had been using a system with two high-performance drives, this would not have been a significant issue.

Unfortunately, most of the newer ultra drive systems on the market are the exception not the rule. They are very expensive (a lot more than conventional hard disks). And if your PC is currently having to run to keep up with removable devices, your average system is not going to be as fast as a dedicated storage computer.

We also encountered some problems in running Immunity Plus with Windows 3.1. It took us a while to get the IMMUNITY.DOS file placed in the correct area within our CONFIG.SYS file. In retrospect, Immunity Plus was happy enough to stop periodically checking.

Conclusion

When all is said and done, Immunity Plus offers great potential for changing the way users handle backup on Intel and non-Intel based PC systems. As a user, you are spared the number of emergency diskette support and products a Windows version of the product, then potential will be even more fully realized.

It has all the components necessary to become a client office professional in the world of Windows or PC Tools with a few improvements in reliability and performance. It probably will be.

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Customized from page 23 are perhaps a treat or two still! You would love two pixel layout!

You must return—backlog first to A then the new day to B then the new to C then back to A again. Then you must return more than one return back.

Installing Software

Installing software requires a fair bit of computer knowledge. Even the most automatic install programs need some manual tuning or previous disk ready installed program files installing with existing programs.

If you want to try it yourself, there is a

very good chance your computer will stop working entirely after the install. Make sure you do a backup first.

The Rescue Diskette

All a computer wizard to make you a "Rescue Diskette." If ever your hard disk fails or loses, you can boot from this floppy instead. It will restore your CMOS, hard disk boot track, DOS boot files, crucial BIOS files, AUTOEXEC.BAT and CONFIG.SYS. It might include copies of the most common recovery utilities. I have software from programs called BOOTSAVE and GHOSTAGE to help in the restoration of rescue disks.

Keep It Clean

Computers will have many mechanical parts to clean, e.g., the cooling fans, the floppy drives, the printer motor and the keyboard switches. Mechanical parts need to be clean to work properly.

The fan in your computer works cooling air in the dust in the front of the floppy drive and blow it out the back of the computer. This keeps dust out and hot inside.

We have to clean back your floppy drives and your tape drives specially. You can clean most everything else just by blowing the dust out and wiping with a cloth.

Cleaning Diskette Drives

I suggest cleaning your diskette drives once a month. The easiest way to clean a floppy drive is with a liquid cleaning kit. I have written a firmware program called JCCLE that runs the read heads over the entire surface of the cleaning diskette. The motor is turned on with a switch or you will launch your drive out of alignment.

Cleaning Tape Drives

I suggest cleaning your tape drive once a week. The easiest way to clean a tape drive is with a cleaning tape and a tape drive tape cleaner. You can get this at most photo stores. It might be labeled "99% isopropyl alcohol." What is it you also clean the photo store that cleans the end of tape. If this goes dirty, tape will run right off the end and be damaged.

Hint: If your tape drive drops a tape, do not put in yet another tape for it to eat. Clean the drive first or leave it alone.

Housework

Your mouse ball will probably pick up hair and the mouse will behave erratically. Take the ball out and clean it with 95% isopropyl. Use a foam-up tooth and gently clean the rollers inside the mouse.

Printer Warnings

You may profit yourself on your buying if you wear your printer ribbon in the dark. But this is false economy. First of all, the ribbon of the ink is to indicate the end of the print head. If the print head is up, you may find yourself buying a \$100 ink for one print head.

Hardware Care

The electrical parts of computer require regular care. However, you need to know a few facts to avoid damaging them.

Power

Your computer will last longer if you know it always powered on. However, you should turn off the computer or turn down the brightness to avoid burning the screen. If you will not be using your computer for more than 24 hours, it is okay to turn it off. Because of the small risk of fire, you should turn your computer off when you leave your house.

Always turn off all the power to everything if you disconnect or reconnect cables. This includes printer, keyboard, screen and mouse. All the power must be off if you modify cables inside the computer system or working cards.

AC Power

Computers are very exact. They need clean smooth AC power in duration. Before a 100-watt AC circuit board or check that your electronics properly connected the circuit when in your AC will not fail.

Computers need the third grounding prong. Don't use a cheater plug and a two-hole outlet.

Depending on how much the power is in your house, you may need an AC power filter to clean the AC power and surge. You will cost \$75 to \$125. Many have two functions—cleaning the AC power and also filtering out smaller surges that would just make a "click" and make it worse. A filter AC power filter does not help much with other problems.

You may also require a high-quality power supply designed to handle transient (long-term) underloadings or that has GFI (ground fault interrupter) or surge protection (surge protector). These cost \$100 to \$200. The more a computer is, the more money. It is to be integrated in the AC power. If the AC power is bad, you may find your computer behaving abnormally or freezing up randomly.

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Continued from page 27

Since ESD's permission is missing, only clean software, e.g., commercial programs and shareware programs, derive from a reputable ESD or shareware dealer.

A reputable ESD (Electronic Shareware Systems) knows the reputation of all contributors and knows the nature of every file. Any virus infection can be traced back. Further, the reputable ESD supply system represents some sort of "screen" before allowing it to be granted for distribution.

By especially wary of any loading software you are offered or say "no" to. That has been made 10 times of a school. Some viruses kill the protection and effectively remove the program's security. School-based software for distribution.

You can check your available for known viruses using the McAfee shareware SCAN program. Unfortunately the best way to avoid these things can require them more than we can avoid them. One solution is to read and there are over 1000 unknown viruses.

If ever you discover a virus attack, get help. If you don't know what you are doing, you are not up to spreading the virus attack that killing it.

It Is Probably Not a Virus

When anything goes wrong, the better first step is to see a virus. The actual problem is usually some existing failure in ESD or ESD. (Read The Password Manual) is pretty cheap the cause.

Seriously, a virus cannot harm you, even when you do the following "diagnostic" steps:

1. Make a directory listing of an infected disk.
2. Copy word processing files from an infected disk.
3. Copy an infected program to your hard disk (if you prefer, delete it).
4. Run an infected diskette on a new virus-free diskette in a box.
5. Run a virus-scanning program on an infected diskette.
6. Use a computer that has a virus, then come back and see if your computer "Worm" is a sign of spread. Computer worms have nothing to do with viruses. A virus is just a computer program written to an alternative child.

There is only one step to take here:

1. When you run any infected program, keep in mind: viruses spread, so even an infected program runs, it can infect other programs. After it can corrupt the operating system so that it effectively

starts itself every time you turn on the machine.

2. If you have been an infected floppy, I don't advise to suggest that you should play with viruses. I simply want to stop the virus virus.

Boot Track Viruses

If you deal with a serious virus, e.g., a spyware, you must run a range of options back and forth. Back you and the opportunity should get into a virus. The virus is not infected with viruses. You should tell the disk containing the virus to be seen the potential infection.

Really, there is not much cause for alarm. You are sending only data files back and forth, and, generally, in there are some need to run a program and a program.

However, how much more can you say if you lose a floppy in the machine by accident when you boot, or print out, then it you are wrong, you could still get lost. However, during a virus power failure. When the power came back on, the infected floppy would have not been your last disk. Then when there is a virus present, it is not to assume a floppy and put it back in its routine. Immediately after you have finished with it.

I want a generic boot track virus called BOG. It can kill any boot track virus, known or unknown. It takes only a second to enter a floppy. It does not corrupt the disk, so you never see any virus. If you simply want to see any boot track virus, BOG, you will be okay. I have written a virus of simple generic business accidents. I will send you a copy somewhere in the world for \$5 including shipping and handling. You are free to make it easy copies as you want without these we.

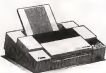
Summary

My friends on ESD and I have studied the selling of hundreds of reasons to produce this advice. If only we could learn from each other's mistakes. Many people already know what I just told you, and will do not follow the advice. Only after they have been badly using do they become true believers. Persistent people are strong only, and are only a few's work. The first computer virus came here any trouble at all, and the big one, that first decades of work.

Really, there is not much cause for alarm. You are sending only data files back and forth, and, generally, in there are some need to run a program and a program.

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Mass Storage

Options for Mac & PC

CD-ROMS, WORM Drives, Floptical Disks and The Future of Storage

附註：關於紅利與派息，香港丁利以優

In the short lifespan of the computer industry, advances in chip technology, graphics, and RAM / ROMs have occurred at an incredible rate. While these areas are very important, one field which (although it is just as vital to computers) has not achieved the level of recognition as areas such as microprocessors is the matter of storing all the information that computers handle.

As computers become more powerful, operating systems geared to superminis and mainframes had more features, the need for ways to store the data generated by all these computers grew exponentially. While microcomputers had disks, mainframes used paper tapes or, in the case of IBM, magnetic drums. As the 1960s wore on, IBM and other mainframe makers began to offer disk-based data bases. But as computers improved even more, it became clear that even mainframe disks would not be enough. In the past few years, four new technologies have emerged in the storage arena and have set the foundation for the future: CD-ROMs, WORMs, Braided Fibers, and most recently, magnetic-optical disks.

CELESTINE

CD-ROM/Compaq: D40—Strut Only Microsoft used data from compact disks. First, a laser finds a beam of light which is reflected by a mirror on an aluminum disk. It checks to make it may also a point of light (a hole) in the disk. If the light is not a point (a hole), and when the disk is rotated under the lens, the light pin reflect a greater intensity of light back to the lens than the rest of the disk. This increase in intensity is then detected by the disk head, or detector. The detector then sends a signal to the technology to read to push an encoder in a number of "bits" onto the disk. This means amounts of data are directly compressed in compact disks (CD-ROMs) are made in an uncompressed manner, with data being compressed by software. The data is then sent of a smooth drive of plastic film. This, by the way, is exactly how photographs are made are made in the analog

CD-ROMs are perfect for storing large databases of general info that doesn't require revision often (such as encyclopedias, digitized comics, and dictionaries). However, there is often a need to store huge amounts of one's own data.

such as a series of AutoCAD 2D files with full schematics of the space station, or a complete listing of all the source code produced by a programming team from the program's inception) for indexing or personal reference. In this case, WORD (or Word One - Read Man) files may be the solution.

Wolfgang Iser

WORM does several things in a fashion similar to CD-ROM drives, but they can also store data so thick that doing this writing is permanent. Inside the boxes, "Write Once Read Many" (WORM) is the result of using a laser to burn holes directly into the surface of the disk. These three holes reflect much less light than the surface of a CD-ROM, and the beam intensity which is caused to rise can denote the data stored on the disk. As with CD-ROMs, the lasers are used to make a great number of tiny holes in the extremely small area of the disk, causing great information density, and greater data storage capabilities. WORM drives can store large amounts of data per recording. Unlike CD-ROM drives that hold only one recording, WORM drives can hold many recordings.

Keywords: *depression, mood, mood disorder, mood disorder with anxiety, mood disorder without anxiety, mood disorder with anxiety, mood disorder without anxiety, mood disorder with anxiety, mood disorder without anxiety*

Most of us think Bernoulli drives with the 28 megajoule renewable cartridges made by Ingersoll Corporation. This technology, though, is based on a principle of physics that is used every day. Bernoulli's Principle.

Flow of a fluid on one side of a surface produces less pressure on the other side, which decreases in fluid flow on one side results in an increase in pressure on the other side. For example, a plane's wings are made at the speed of the airflow above the wing is greater than the speed below it. The result being that the pressure below the wing is greater than the pressure above it, producing a lift that helps the plane take off.

homage and the principle in the Bernoulli box by having a flexible magnet disk pivot very closely to a circular plate which contains the magnets and/or wires leads. When the disk is spinning, the circular plate drives it and compresses no flow, lifting the disk up towards the plate close enough that the lead-to-disk spacing is very small (50 microns for the Bernoulli box).

Does it imagine head dies are actually much the deal, taking in would require pressure that would push the disk away from it, and nullify the Bernoulli effect, head crashes are positively impossible. Also, since the disk is closely (not tightly) aligned with the magnetic head, more data can be stored and recovered, since the head can accurately read/write from more tracks than otherwise possible. Also, given the general basis of this method, Bernoulli technology can be used with other storage methods, in order to achieve even more reliable ways of storing for more than three billion.

Magneto-Optical Drives: The Next Generation, and Now Order

Although these three technologies will be important, most of them deal with archival storage, or storing massive amounts of data for later retrieval. Recently introduced, however, magneto-optical drives seem certain to revolutionize the area of floppy disk storage. Most computer users know of this technology because of MOCT Inc.'s pioneering efforts in using magneto-optical drives in its high-end computers.

The disks for the MacNT drive use the same protocol as CD-ROM disks, with a reflec-

The Evolution of Removable Mass Storage

BY GUY WHEELWRIGHT

While producers of hard disk and optical storage systems have one method to offer the fastest and highest-capacity mass storage media, floppy disk makers are also working hard to bring greater mass storage capacities to the humble floppy disk. There are three new sizes of floppy disk which have recently emerged from development labs: the 4 megabyte (4 megabyte) and the 8 megabyte (8 megabyte) and the 16 megabyte (16 megabyte) formats.

Of these, only the 4 MB is the most well-known commercial product today—being used, for example, on selected IBM PCs systems and Macintosh workstations. This is fairly because it is infinitely one of the easiest to develop—and also one on which broad agreement among floppy disk manufacturers, drive producers could be reached relatively quickly.

The 4 megabyte floppy disk contains in the 5.25 inch size and should have put a label in the center of the 5.25 inch floppy disk (used in IBM's original Personal Computer and most subsequently produced "clones" of that machine). It has a "nominal" capacity of 1.44 megabytes—half the size of the 1.44 megabyte floppy disks which dominate the Midwest PC market.

The 12 MB floppy disk, meanwhile, will need to use "error handling" technology. That's the same error logic used to cut on the path along which data on a floppy disk is recorded—has proved a limitation to storage capacity.

In order to effectively add more capacity to a floppy disk, a greater number of tracks need to be laid out on the disk. In operation, all "inner" floppy disk drives track density is currently said to be reaching its limits. As tracks are moved closer together on the same physical surface, they tend to become more difficult

Unfortunately, the teacher from heaven would have some difficulty in implementing accurately (given that she can't hear "loud and softer" sounds) any follow-the-leader properly. A nerve-tracking system designed to solve this problem involves the use of a single track within the top of the side of the disk and two bands on the disk itself — one to follow the previously written source "spiral" track. This band will then adjust its position to follow that source track and can then drag the main master/slave band into position to follow the main source track.

This, however, is an evolutionary—not revolutionary—happy club technology. The vibrant technology in happy club groups is *how* to come from where others will not go. And regarding individuals—and it is this technology which is being employed in the development of ordering experienced 25 million clubs.

Virtual recording, however, is still the "holy grail" of magnetic backup and storage. And even with the capacities that it makes possible, they will still look meager compared to what optical storage systems can currently offer.

With a capacity of 800 MB or more, installing optional NCRNet (White Crown Panel) always systems might make virtual networking systems look a little under-powered. So to arrive to Go on, optional systems software is basically a full-featured, portable truly accessible media and manages that time it takes to access data. ■

Iomega announces Pro line of removable drives



Iomega has released the Removable Pro 750 line of removable drives.

The company says the new family of products offer 30 megabytes (MB) of data per removable disk, but are available with a special version of the Removable Pro 750

that can hold the average storage capacity per disk to 140 MB. The new product is called Proline by Iomega, is available for PCs with ISA bus (ISA-090) Microchannel bus (MCH), and parallel port interfaces (PPI).

The drives sport a new mechanism that is said to improve access time to 11 milliseconds (ms). Iomega claims that this new product makes the effective access time to 3 ms. The company maintains that the new mechanism is faster and runs cooler than previous Removable drives, for even longer life.

Removable drives are available for a wide range of computers, including PC, Macintosh, NeXT, Sun, SGI and others. Prices start at \$129.95 for a Removable Pro 750 disk for AT/ISA PCs.

Contact: Iomega 800-777-4776

Maynard Intros Transportable Tape Backup Systems

LAKE MARY, FLORIDA, APR. 14 (PC)—Maynard Electronics has introduced the first Effort transportable tape backup system. Effort comes in the standard form of desktop, laptop, or notebook PC, or P/T machine.

Maynard said the unit does not require a separate processor card, and shares the PC's just-in-place with a primary controller that is used to control and document either of the peripherals to use disks. According to Maynard representative Anne Luchini, the special video camera on the tape drive is the computer. A port in the tape drive accepts a cable from the printer. Only one of the drives can be used at a time, Luchini said.

Maynard said they will soon ship the Effort with its Effort DOS software to May. Effort will have a suggested retail price of \$495 for the LRS computer, \$495 system and \$750 for the ESMA drive. The company says Effort can backup a 40MB hard drive in less than 10 minutes. Effort is compatible with the standard line of Intel's AsciiLink systems.

Effort is a menu-driven program, and

offers unattended backup as well as the ability to select full backup or only selected files. Maynard also offers Effort software for Windows as an option.

The Windows version includes multi-tasking capability, allowing the backup to be done while other tasks are being performed. Data compression, automatic scheduled backup, automatic support and an integrated tape library are also included in the Windows version.

Personal Effort users can upgrade to the Windows version for \$85. If you do not already use Effort, the Windows version has a \$110 price tag.

Network support is provided for Novell, LANtastic, IBM, PC LAN (local area network), and TOPS.

The AsciiLink system provides for the exchange of data between microcomputing tape drives marketed by IBM, Compaq, SGI, Hewlett-Packard, SDC, Data General, Zenith, and other distributors. The Effort drive can also interchange data with tape drives on Effort for OS/2 software.

Contact: Anne Luchini, Maynard Electronics 407/942-4400

NEW FOR PC Rodime Offers Ricoh Rewritable Optical Drives

BOCA RATON, FLORIDA, MAR. 31 (PC)—Rodime Systems is about to introduce two rewritable optical drives for Macintosh systems based on Ricoh drives. The new drives will be compatible with all Macintosh systems in software from 6.47 up, including System 7.5.

The Comdex 400 is a 400-megabyte (MB) capacity, 5.25-inch drive based on the Ricoh Photogrip drive which claims to achieve 100 megabytes-per-minute (17MB) to 5,100 35-millisecond (ms) average access times with a standard 100-MB-per-minute data transfer rate. This would compare to CD-ROM drives which have access times from 800 ms to well over 100 ms.

The second drive is the Comdex 1500 (125 MB), based on the Ricoh 5.5-inch

Transcend Drive which claims to achieve 5,000 rpm rate and offers a data transfer rate of only 400 kilobytes-per-second with an average access time of 60 ms.

There are both single- and rewritable optical drives, but the Comdex 125 is a 400-megabyte drive most produced (published) under the new 5.5-inch DCLM standard, which is very like a small CD-ROM but stores only 125 MB of data instead of the 500 MB carried on a large CD-ROM disc.

Rodime builds optical drives but sells them to manufacturers who integrate them into computer systems or integrate them to add-on systems for existing computers.

Contact: John Dean, Ricoh 302-452-8800

New Faster Quantum HDs Geared Toward Workstations

MILPITAS, CALIFORNIA, MAR. 16 (PC)—Quantum says it is offering 426 megabyte (MB) 3.5-inch hard disk drives called the Prodrive 426 beginning next month.

The new drives are small compact, system interface (SCI) based or integrated Drive Electronics (IDE) based models and offer 354 kilobytes of random access memory (RAM) as a cache buffer for improved performance, the company said.

Quantum says the new drives are geared toward the workstation market. The company said its previous hard disk drives have been well received and in 1991 about 50 percent of workstation hard disk drives were Quantum.

The SCI models will offer an optional 5-MB cache, also known as Differential SCI.

The SCI is a mode of data transfer which allows data to be transferred, up to 15 MB per second is expected to the drive's 160,000 tracks required by the SCI-1 protocol. Pro SCI also offers for longer cable lengths with increased integrity of the transferred data, Quantum said.

Real/View Multiple Access is available on the new IDE-based AT models and allows data transfer in blocks much larger than one sector, which also improves the data throughput speeds, the company added.

The cache buffer on the new drives is segmented, allowing for lower seek times by increasing the number of read requests the drive can fulfill from the disk. It has already read less than the cache buffer. Both read and write caching is supported via the company's proprietary Ontrack and ViewCache software. Speed increases of up to 30 percent are possible with the Ontrack, while ViewCache can increase the data throughput by as much as 80 percent, Quantum maintains.

Quantum says its manufacturers 25-inch and 3.5-inch hard disk drives in Milpitas, California manufacturing facility in capacities from 42 MB to one gigabyte.

Contact: Quantum, tel 408-804-4000



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Emulex Says Its \$57K Rewritable Optical Drive Is Cheapest

COSTA MESA, CALIFORNIA (EM)—Emulex has announced its Palmetto family of rewritable optical storage systems which the company says are designed to offer a lower alternative to tape backup and compete on large capacity at a lower cost per megabyte.

Emulex says its optical storage system is available from 15 to 85 gigabytes (GB) for small company systems (EMC), Q-Link, Dallas, and 8000 (corporate) VAX systems or clusters. Full systems come with a host adapter, optical platform, and job-level management software, Emulex said.

Teri Blackledge, director of product marketing for Emulex, added that the Palmetto system eliminates the need to pack device drivers and programs needed to read a standard format. "The Palmetto is the only rewritable system that fits the rest of the back file system standards and uses IBM-8000 format," she said. "The system will play nicely with VAX systems or clusters and will read data that's non-negotiable with CD-ROM (Compact Disc Read-Only Memory) format," stated Blackledge.

In the storage of such a large amount of data, the drive will be easy to manage and

become more important. Emulex says it handles data more with its Laserwrite products, which include a printer add-on, making the system, and a software interface of all the file and volume information. Laserwrite has a graphical user interface (GUI) that can be used on microcomputer terminals or workstations, the company added.

Laserwrite, a utility for backup and recovery across the transmission from the optical disc, is also available from Emulex. The company says the product has caching techniques incorporated into it that allow the copy of data on the optical disc to be three to five times faster than the VHS backup. Also, access for restoration, which could take from minutes to hours with the VHS tape system, can now be accomplished directly with the reader or access provided by Laserwrite. Emulex announced.

Emulex says prices start at \$17,500 for 15-GB (gigabyte) and go to \$205,000 for the 85-GB jobbers. More information is available from Emulex at 3045 Harbor Blvd., P.O. Box 6720, Costa Mesa, CA 92626, or by calling 800-656-5112.

Contact: Emulex, Tel: 714-946-0400.

Hong Kong: CSSL Pioneer's Laser, Imaging for Banks

NORTH POINT, HONG KONG (EM)—Hong Kong-based Pioneer CSSL, the highest one of the Hong Kong distribution to bring laser to technology and imaging applications to an IBM AS/400 banking customer.

The company has announced Archiver/2, a disk storage and retrieval system from US-based Datacube software house Rapid Systems together with support for IBM's forthcoming AS/400 Optical disk system which will be incorporated in imaging capability.

"The product will look to incorporate IBM Rapid's Expansion Imaging system, for which CSSL is the exclusive Hong Kong distributor. Expansion will be one of the first IBM AS/400 banking system to integrate laser technology," said CSSL.

IBM's AS/400 Optical Disk system will provide laser-based storage and retrieval for both text and images. It will enable documents such as checks, contract documents, loan agreements, trade finance documents or photographs to be stored and retrieved electronically or transmitted over Broadband Data Services (BDS) networks.

"Image processing opens a world of opportunities for banking customers in savings and services," said Patrick Lam, Chinese manager at CSSL. "In particular, the ability to use BBS is dependent on our laser-based multi-media documents and their associated images to be transmitted electronically. Trade documents can then focus on the physical movement of goods rather than on paperwork."

Lam added that optical storage of photographs may also become essential as pictures are increasingly used on check counters and credit cards in present form.

Rapid's Archiver/2 system is designed to store all reports and customer documents provided by the Expansion Imaging system, with documents data being passed directly into the AS/400 or the optical disk. The system also includes facilities for automatic updating of the index which can be defined by the user for ease of access and retrieval of stored data.

"Archiver/2 will enable users to reduce the quantity of business data held on their main system, and to speed up the processing of their normal workload," said Lam. He added that Archiver/2 will be available to existing and prospective users of Expansion to provide storage and retrieval for the immediate data contained in banking reports and customer documents.

"Laser technology will be of great interest to the Hong Kong market," said Lam. "By moving down on the huge volume of paper generated by most banking systems, customers will be able to make substantial savings in storage space and expense. This is a real consideration to companies here and in other regional centers where real estate is tight."

A user benefit of the Archiver/2 document-based product is to be able to store pages in paper savings alone, Lam said. The system is already running on two sites in the UK and a further three are being implemented.

Each optical disk has a storage capacity of 940 MB, roughly the equivalent of a million pieces of A4 paper. At around 130MB for each disk, the cost is cheaper than any traditional methods of archiving. To store the same volume of data contained in banking reports or 1,200 pieces of microfiche would be required.

As an integral part of Expansion, Archiver/2 is a key element of the application. Data and control of stored data is available through a WORKS (work) system, read image optical disk reader, connected to a PC and printer, which may be local or the nearest optical disk system or securely linked via a local area network.

Archived reports can be retrieved for data demands linked directly to the IBM AS/400 processor. These options will store branch offices to require reports held on the master system for printing locally or centrally, as directed by security requirements, providing a complete, global system.

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Mass Storage Battle: Micro Drives vs. Flash Memory Cards

MOUNTAIN VIEW, CALIFORNIA, MAY 14 (ENR)—The lower cost and increased storage capacity of flash memory cards is expected to give microdisk drives serious competition in a market that is now being won by microdisk drives. A new study says the microdisk drives are expected to add dominance over mass storage technology in a ratio of 2.5 by 2000.

Until recently flash memory, or memory that can maintain the information stored in it even when the power source is off, was too small in storage capacity to be considered. However the new moves in increased storage for flash memory and microdisk drives have brought microdisk and flash memory cards into serious competition with microdisk drives.

Market Development, in its recently released study, predicts both technologies will grow substantially from the \$1 billion market in 1990 to more than \$12 billion by 2000.

Both Intel and AMD have introduced flash memory drivers for personal computers. While the hard disks are less expensive they provide a speedier interface and special software. The AMD card, however, boasts the advantage of an embedded IDE (Integrated Drive Electronics) hard disk interface, so they look to the computer just like a hard disk drive.

Flash memory currently has the advantage of being nonvolatile, more rugged, more reliable, lighter, faster, and uses no power consumption, MI said. But the fact that it is more expensive and was only recently introduced will hold it back from dominance in the future in a standard technology, MI added.

MI says the price gap between flash memory and microdisk drives should narrow dramatically, which would allow the flash memory more success. The availability of microdisk in microdisk or spin-drive that is cheaper, more rugged, and no power consumption, and an lightweight in flash

memory cards will force flash memory to the two for dominance, MI added.

MI is predicting that flash memory cards will hold 40 percent of the constant and mass memory market by 1990. Even though the cards are more expensive now, special card applications such as hardware research industrial environments, superfast portable terminals, medical monitoring, robotics, and digital cameras are expected to be controlled by flash memory cards, MI said.

Microdisk drives 2.5 inches and smaller are now common in data collection and data base hard disk controllers and portable and desktop diagnostic equipment, according to MI. The smaller "microdisk" 2.5 inch and smaller drives are used for the smaller desktop computers including printers, personal, and notebook-based drives, MI added. These smaller 2.5 and 1.6 inch drives are expected by the mid 1990s, MI added.

Profit margins could be higher in flash memory, MI stated. In the microdisk market, the product life cycle is only 2 to 3 years in smaller drives are replaced for customers demand for larger capacity drives. Further, profit margins are low due to the heavy competition, the company said.

Not a surprise, MI said the Japanese are likely to move into the U.S. market due to the "Win" competition is expected to increasingly move U.S. companies "sell down" to the low end in the future, MI said.

Mountain View, California based MI describes itself as specializing in research in the "Win" competition is expected to increasingly move U.S. companies "sell down" to the low end in the future, MI said.

ENR/Enr Amy Small Market Intelligence Tel: 415-941-3600, fax 415-941-0425.

Survey Claims Gov't Imaging Will Triple In Five Years

WASHINGTON, D.C., MAY 11 (ENR)—A recent survey by Vantage, Virginia Beach, Va., a market research firm which focuses on the needs of federal users, says that the federal government will increase its use of imaging with nearly 30 percent each year for the next five years.

The present use of the federal imaging market is about \$450 million, but the latest survey says that is going to grow to \$1.4 billion per year by 2000.

These numbers include a lot of costs, but the real bulk of imaging hardware and software will involve this like optical storage devices such as WORM (write-once, read-many) drives, rewritable drives, and CD-ROMs, as well as computers to manage the data, software to index, search, and retrieve data, and optical systems attached to computers. Also included will be high-resolution cameras and graphics cards, and laser printers.

Overlaid with paper, the federal government has already the power to come up

with viable storage systems which would combine the benefits and inefficiency of paper storage and documents which range from memos to maps, diagrams, and even collections of images.

The FBI, IRS, and Postal Service are already using use of imaging systems and in the near future these agencies will increase the means they spend on such systems. Federal agencies will also move to this technology.

Nearly 30 percent of agencies now use either microfilm or microfilm-based imaging storage and retrieval systems, with about 20 percent using microfilm systems to record and

store images.

A survey last year by Government Graphics Inc. revealed that 62 percent of FBI responding federal, state, and local government agencies interested in imaging technology expect to have a system in place by 1994.

The most important reason cited for moving from paper to electronic storage is space savings.



Electronic Documents: Are Paper Manuals Obsolete?

BY PETER TALBOT

Recently I was faced, like many others, with a writing exercise in Toronto called "Designing Business Manuals." With a date's hours at the time was that the course wasn't really for writers at all. It was actually designed for performance artists who had teaching aspirations. The instructor's theory was that by combining their performance skills with research writing skills, the result would be instructional documents fit for an exhibit. But the guy wrote them and handed them out.

One project was submitted on a floppy disk and was instantly discarded.



documented on the use of computers and sound symbolism in electronic music, complete with flow charts explaining how they communicated with one another using the MIDI system. As the question of whether the manual content a computer is its perfect medium, and since we're wasting so much time writing in this type of mode would have to be computerized, the decision to submit the project in electronic (disk) form was perfectly correct.

The paper itself, a writing I was doing, well regarded and interesting to read. Because it was carefully researched, students were able to jump from one section to another easily. Using his skills as

Continued on page 42

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Continued from page 41

a professional, the author played "no reality" character in the more complicated chapters with imaginary persons such as "Beth the Executive." Clicking a mouse pointer on the first line to place instantly added up a graphic of the human emotion opening a tool belt and hitting a pile of business papers. The scene then followed into equally interesting.

Apparently the scenario of the scene was too important. She told him to not preparing a paper copy of the paper.

Paper Copies Disband

An a piece in the scene, I kept my opinion to myself. But I was glad to see the display

of the machine in the class placed this person's case. There of us were in situation seemed to a computer movement when used some marketing that electronic documents in just as held in the last copy series. In fact, many computer professionals still place more credence in marketing spelled out on paper than in electronic counterparts.

There is no exception. Public relations specialists learned years ago that if you place a person in front of a set of books, stories for a television screen, this person's credibility immediately rises in the eyes of many viewers. This is because most of us associate books with knowledge. The image of a person surrounded by books is

of floppy disks just doesn't command the same respect, at least not yet.

But the idea that lack of paper means lack of information couldn't be further from the truth. Online documentation is big business, although the technology—and the way to use it—take a long way to go. Training is usually no obstacle to make these systems offer many benefits, especially when we consider that the Web/Internet facility available on most software already eliminates the frustration of looking for words or concepts. Unfortunately they do not provide some degree of computer literacy. And this is where the material is placed in a more true.

...many computer professionals still place more credibility in something spelled out on paper than its electronic counterpart.

Some General Guidelines

Today there are electronic manuals on top of the hanging from American flag language in front of you. Whether or not they succeed depends largely on the planning that goes into them, knowing that your manual is designed to be delivered electronically means a different approach is required in writing. It requires solid organization, and sometimes that that many of the rules that apply to print manuals apply in online manuals as well.

1. Consider Your Audience

In your manual, consider the audience, not only the computer (PC or Macintosh), but also the user. Remember, no one will read the latest technology manual. Even those who use the machine probably have prepared for, and encourage, such class.

2. Consider Access

If you're already offering the idea of a manual to access for online or screen manuals, designate a terminal or TV to be connected for those who don't have their own.

3. Pay Particular Attention To The Front End Of The System

An opening screen is like the cover of a book; if your readers don't like it, they won't open the book. If you're not confident that "user-friendly" is an added design feature, consider an artist's description of a screen's front end, but referred to as a "Visual Screen" that you know that's a useful option.

4. Avoid "Fixed Panning"

This is the electronic equivalent of not enough white space. A cluttered screen, like a cluttered page, is bound to cause all your readers.

5. Guarantee The Visual

Be prepared to enhance the data meant to be hard-copy format rarely written in the electronic version.

6. Be Available To The Presentation

Remember that readers may not read the document on computer screen, but, which may affect its availability.

There are two points deserve special consideration. Traditionally the design applications used to enhance the "visual" look by inserting the physical appearance of a book. Today a digital presentation can go to the point to use text on interactive track, which includes the wrong page of a book.

More creative online, rather than professional, have become involved with the actual design of the system and are showing this approach is important. Just as one can contribute with the simple and real approach of printing, so one can contribute by the simulated book design approach on screen. Online online documents will probably be a hybrid of these two strategies, with increasing emphasis on graphics and documentation.

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HOW TO SELECT A Point-of-sale System

BY TOM WATERS



There are a number of point-of-sale (POS) software systems on the market today. The vast majority manage inventory, customer, and customer database. This means that if a customer purchases an article of clothing, the company automatically updates the inventory database by reducing the item, updates the customer database with a record of when the customer last purchased where items purchased, it is then records when they paid for it, updates the customer database with total sales and payment type information to be considered in the general ledger. Other variations open such as inventory are included in a similar manner to the items and units.

Be prepared to make the right choice
To pick the right software package you must first be prepared. Preparing yourself can be a time-consuming, but eventually rewarding experience.

First you may want to consider the use of a consultant. There are many retail consultants who will visit your store, discuss your business, help you determine your needs, create your prospective software conditions, set up demonstrations, and make recommendations.

If you decide to do this yourself, start by developing your needs. First consider whether there are underlying factors that make your business unique.

What do you need?
If, for instance, you are in the jewelry industry, a site feature is a *ring in it or not in it*. Alternatively, you may be in the hardware business where small items (screws) and weighty items (barrels) share a shelf. In the grocery business, inventories are other features such as sodas, gas pumps, and customer displays become a part.

As well, the system must be able to accept *IBM Personal Products*. Otherwise, although you think you are getting an early manufactured product, there's a good chance you're not. In the grocery business, for example, you may need to sell items individually or in sets (such as candy or coffee). The same for other computer systems is considered.

Make plans for the new system
Now, do you have the necessary space requirements? Are there areas to think about where you are going to put the system—the sales counter is a popular choice. When you decide where you want it, you need to make sure there is room for a computer, customer keyboard, and follow-up printer—any desktop machine, some computer equipment be ordered. POS systems can be made to look and operate almost exactly like a retail register. You can save some money by accommodating the follow-up

printer when it you have to take it under the counter.

Do you have budget constraints? What can you afford? There is POS software on the market ranging from \$149 to \$3500 plus.

Accounting for your investment
Do you want an accounting-based system or a POS system that can be linked to your present accounting system (not just of the other very good accounting systems that make sense)? Approximately half of the systems currently on the market were designed with the assumption that most Others were designed for sales clerks, but with the ability to compile information to be fed into a good accounting software package. If you are presently using an accounting package, why change? Changing to an accounting-based system would eliminate some expense (training on the new accounting system as well as the POS package).

Do you carry inventory? If so, it would be best to have at least this feature. Inventory systems handled by the POS system for speed and ease of use.

Do you have inventory? This is a special feature, so if you do a lot of inventory, it should be a strong point in deciding which POS software to buy.

Is it easy to use?
Ease of use is one of the most important factors to be considered. What is going to be entered by the operator? If the system will be operated by a sales clerk, this clerk's own keyboard experience the system should be considered. The process of completing a sale should be as easy as a manual is required.

Do you require the use of multiple terminals? If you do not want or do not need multiple terminals? If so, the system should be selected accordingly. Multiple terminals of software require the ability to back the use of new software or inventory from record on one terminal so that if the same customer or inventory item cannot be updated at the same time as the other terminal, sharing many common information to be used on the terminal.

In the system to be used by multiple users operating in a head office. This feature may be a magnitude of difficulty and probably requires the inclusion of reference materials between operations to consider this.

IBM, UPS and Inventory Control
If any of the systems you are considering a POS package is inventory control, consider how the system of inventory information will be tracked by the system. The first most need

methods are average cost, actual cost, two cost in first and last, and two cost in first only. The only two methods acceptable to Revenue Canada presently are actual cost and FIFO.

Another consideration with inventory is how easy it is to enter. Does the method of inventory entry require the typing of the same information more and more updated? Does a new data source have to be developed with each new inventory item? The average retail store may have a few hundred inventory items and so the entry of inventory items may be simple and accurate.

A good customer-management system can get the full use of the data even. Ask if the system has some type of barcode generator. Built-in mail-outs with the personal sales to your two customers are one way to complete with the big guy.

Don't forget to ask
Ask for demonstrations of the software. Be prepared to spend time, two or four hours per demonstration to get a feel for the program. During the demo, try to determine whether you will have any trouble communicating with the vendor. Trouble in the first meeting could mean future problems.

Don't be afraid to ask other people in your industry what they are using. Ask them if they had it to the very beginning, would they still purchase the same software?

Does the vendor come flexible? Can they accommodate the time constraints you may have in your business? Can they visit after hours or in your private? Do they even willing to report on what if retailers are needed?

Can modifications be made to the software? If you want a gift business, a holiday gift program might be one of your main concerns. Will the vendor ask this to your program or is it an monthly fee to look to a third-party program?

Ask the references. Any reliable software vendor will have a list of references that it may be asked to verify the claims made by them.

Check out the references and make sure that the technical support provided was given and that all was delivered as committed. Don't stop there. Check out references on, included support, training of reliability.

What is included? Does the system include training in the purchase price or is it additional? Does system are sold with a minimum number of hours of training and then an hourly rate is charged for subsequent instruction. What is the technical support policy of the vendor? Is the technical support included for a limited time? What is the fee for subsequent technical support? What is included in the technical support fee? Is it only telephone support or is fax and personal support given as well? How often is the program updated? Will program updates cost additional money?

Do deal customer buying the computer software from one vendor. Although you may save money in the short term by buying point-of-sale equipment from a discount house, you will save yourself time to implement them when built a system built may be. The hardware manufacturer could claim the software is in fact and vice versa. If you buy both the hardware and software from the same vendor, they are responsible to make sure it operates correctly.

Check service contracts are generally more expensive than standard arrangements. Consider whether the loss of your machine for a day or two will be disastrous.

Is the company established? How long has the company been in business? Researcher which you ask the question too, the IBM Personal Computers only come on the market in 1981. Ask if the company should become business—can you support the product you are purchasing—whether there is some plan to plan to maintain your system, or in the very least make the source code available so you can continue to support yourself. Some companies have their software in source file form each in source.

Selecting the right point-of-sale software and the right vendor can be a very hard decision. Generally made however, it will reap considerable rewards for you and your business. Inventory made it will and you have time, money and confidence. ■

Tom Waters is a business writer and author of POS systems of Small Office Systems. He is located in White Point, British Columbia. He can be reached at (604) 581-4314.

Check out the references and make sure that the technical support promised was given...ask about weaknesses, technical support, training and reliability.

Continued from page 47

Just as the top row is Diskfax, used in an automated hard-disk, it exports tape record data to a floppy disk. The hard disk model contains a 200M address, capable of holding a great deal of data. The Chicago Diskfax is sold as a floppy disk only version.

Who reads it?

Increasingly, question. The answer is probably people in large corporations who could select data around locations of their company within, looking to run up complex small systems and WANs.

It would also be useful for international trade and for corporations with lots of PCs, but few means to send information in urgent format to each other. The Diskfax offers the potential of becoming a given department's data communication system—thereby eliminating the need to buy individual modules for lots of PCs.

In addition, it could replace the need for expensive multi-page letters. Sending a 50-page fax at the international amount can take up to half an hour. "Diskfaxing" the non-converted file containing that many 50 pages of information would take you less than a minute—a huge potential savings for those who send lots of computer-generated data to people capable of reading the same document answers.

Typographers could welcome it too, as most of them accept PostScript files via modem—and the 5000 baud minimum slow speed of the Diskfax makes this attractive.

Pricing

The price of the Diskfax is in line with the problem, although North American distributors. The Denver-based Group promises that prices will drop as volume increases. You will currently pay \$4995 for the base floppy disk version and several hundred dollars more for the hard disk model.

These prices are comparable to what you would expect to pay for a high-end fax machine and they are also about exactly what you would have to pay for a copy of PC Magazine (if a 5000-baud modem had just got added).

Also, dynamic developers of the Diskfax, claim price is not a problem. Diskfax is without doubt most common and easier to use than a dedicated PC-based way in a corner running a 5000-baud modem. And there are significant cost savings to be made by not having to waste valuable company resources on establishing PC-based communications systems in your company or by sending long files and making up long-distance charges.

The team talking about high pricing, how-

ever, is that it's often one of the simplest elements of the package to fix. No redesign is required—just some long hours during every a spreadsheet to figure out whether increased volume will make up for loss of potential profit on the current high price.

And the company is willing to lower the machines for around \$100 a month. So if you are in fact that in telephone costs by being able to Diskfax your long documents instead of having them, then a step by worth using a Diskfax, rather than waiting for the price to drop. I could also see using equipment in line of using Diskfax. In corporate environments where server fax and single document systems are essential.

Conclusion

The Diskfax is an interesting concept and holds out the hope of easily reducing the number of potential users of PC-based data communications. If it can work, it could do for the computer what what fax machines have done for the document processing world. This is a tall order, but Alti Systems has made a good start and now needs to follow through with improvements to the price.

If you need a simple and relatively fast way of transferring files from point to point, then Diskfax is worth a look—you be sure that, at least for the moment, you will get a premium for doing so.



"According to the more serious software, it's not going to lower rates."



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Gary F. Zak-Co Founder

Software Of The 21st Century? You Be The Judge



INTELAW

R E V I E W

Aldus PageAhead

Database extension for PageMaker 4.0

BY GEOFF WHEELWRIGHT

Publisher: Aldus Corporation**Distribution:** Aldus, 410 First Avenue South,
Seattle, Washington 98104-0271
Phone (206) 426-0268**Windows hardware requirements:** IBM, i486 or
486-based PC capable of running
Windows (at least 2MB RAM)
3 MB of RAM (4 MB recommended)
20 MB hard disk
20-MB recommended mouse**Windows software requirements:**
MS-DOS 3.11 Windows 3.0**List price:** \$160 (US) or \$200 when purchased
with PageMaker 4.0 Windows

Database publishing has always been something of a poor cousin in the desktop publishing firm, but it is actually a large potential market for database publishing.

Professionals of catalogues, telephone directories, product brochures and other mail-marketing campaigns can all make use of database publishing techniques. The first of the problems of database publishing persists here as the last: more income in marketing them.

It should also come as no surprise that the major players in the desktop publishing industry have now taken up the challenge by securing marketing rights for database publishing products to run alongside their own DTP offerings.

In the case of market leader Aldus Corporation, the company recently acquired the worldwide publishing and marketing rights to the Windows-based PageAhead database publishing product—originally developed, sold and marketed by PageMaker Software of Illinois.

PageAhead allows you to query, retrieve and format data from dBASE and other flat-file data sources in such a way that they can then easily be placed into PageMaker's Windows Window. PageAhead, you can use the data in the database, combine data from multiple database tables and create "virtualized fields" from the data.

Using PageAhead

Just start PageAhead as a separate application, either from within PageMaker. 5 has an icon on the Windows desktop and operates entirely independently (which is just as well, given that you need to use it only infrequently from PageMaker).

You then have to set PageAhead a few things about your work—starting with the type of database file (dBASE or ASCII) as the only two formats on offer, the "target" PageAhead publication to which the database information will be placed and, if PageAhead hasn't already created one for you, the output printer.

These things lead to an interesting case of the first things you are likely to want to

do is load up the database file you filed containing the data you want to publish. To do this, click on the Query menu and select the option to Create Query Table.

There are two modes you can use in preparing your query—either SQL (Structured Query Language) or QBE (Query by Example). For those who prefer mouse to keyboard, the QBE option is likely to be by the easier.

Once you have entered Query by Example, you then need to select a database in which to carry out the query. If your database is not yet in dBase, PageAhead will allow you to file it as a dBase file from which you can choose to create your queries.

PageAhead then brings up a spread-sheet-like grid on the screen, with the names for the fields in the database becoming the names of each column and the record in the database running from left to right across the screen.

If you want all the records in the database to be included in the final, database-published document, you can then just use the Query Now command—and PageAhead will go and retrieve all the data from the database. A more handy scenario, however, is that you will want to publish only some fields—such as names and addresses.

To select those, you will PageAhead which fields you don't want to include in the final report by clicking on the tick-box beside the name of that field in the top of its column. It is to exclude the third employee's salary from the report, you click on the tick-box in the left of that field's row.

Once again, the command Query Now will go in and create a table pulling those records in that it creates two columns—Answer Table showing the results of your query and a View Table showing the same results, but allowing you to work on the appearance and formatting of the data while looking at them simultaneously.

While you work, you can see the data, change the font and appearance level, select column widths and carry out all the other kinds of format adjustments you

UK Survey Shows Fax Usage And Costs Increasing

ASHLEY, EBBW, ENGLAND, JUNE 18 (AP)—According to a survey from Galtop, usage of fax machines is skyrocketing. However, prices aren't necessarily rising. The survey indicates that the growth is being paralleled by a massive increase in costs, which Galtop claims is out of control.

The survey, carried out on behalf of Finney Barnes, has revealed that 51 percent of users have increased their usage of fax machines in the past year, despite the increases. Ninety-nine percent of users believe that this mechanism helps increase their productivity.

The survey, which covered the Financial Times top 500 companies in the UK, showed that regular fax users in the UK and US now send an average of 60 documents a day with US firms topping the league table as average of 64 documents a day.

Interestingly, almost half of the major users of fax machines are now using plain paper rather than expensive and "fuzzy" thermal paper. Additionally, while only 20 percent of those who use a thermal paper machine said they wished they had plain paper, 39 percent said they wanted to make reports of their thermal paper from faxing purposes all or some of the time. This is because thermal fax paper takes about a few months.

Herbert Fisher, vice president of marketing for Finney Barnes, said he believes that some of the findings will surprise senior executives.

"While the price has increased considerably over the past 12 months, operational costs are not being increased, given that the technology in the data is readily used.

able often on machines already installed. Thermal paper, for example, is relatively expensive, tends to fade and has to be replaced if it is used in the dark. At 15 pence per page, the paper and costs, this can add more than US\$1000 a year per machine," he said.

Perhaps more worryingly, only 10 percent of UK users said that their company had guidelines on fax usage, compared to 30 percent in the US and 36 percent in Canada. Galtop claims that 90 percent of UK users had fax systems working on a fax machine setup.

Users said that they knew that fax machines were increasing, but the Galtop figures were beyond what anyone had expected. He also said that companies seem to be waiting to opportunistically in the time when the future of the fax machine.

"In many cases, for example, if they supplied them this summer with new 14.4 kilobit per second modem (fax) paper fax machines, the savings in transmission charges and supplies costs could actually pay for the machine," he said.

It also seems that fax machine users make a lot of money on telephone charges. Only 10 percent of UK users said they used cheap rate phone periods to send their faxes—most of the least fax machines can be programmed to send theirs during off-peak times, Finney Barnes says.

The overall theme of the report is that users are giving an indication of what fax machines are capable of, but that they are aware of what fax machines can do.

Contact: Finney Barnes, Tel: 01753-620791



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Continued on page 48

BOOK REVIEW

Database 101

A book by Guy Kawasaki

REVIEWED FOR NEWSTEEKS BY NAOMI WALLACH

Review of Database 101

a book by Guy Kawasaki

Publisher: Peachpit Press, 2014 North 2nd

Sausalito, CA 94965 (510) 544-4200

Price: \$19.95

ISBN: 0-921-975-175 (pb) a scale of
(subject to adjustment)

Summary: A book that purports to teach you the fundamentals of database is as easy to learn French. (Sarcasm, admittedly, probably due to the skills of the author, Guy Kawasaki.)

tioned "spines." All of the spines employ a multiple gutter system. It is certainly impossible to guess wrong. Here is a sample: "Sleeping is (a) the process of entering a dream; (b) an ending; (c) to continue the

human race; (d) embracing one from different sources; (e) a Wall Street practice of combining two distinct companies to form a third that is less profitable."

To help in understanding the concepts

presented, and to follow some of the examples that Guy gives, choose any two data sources of Macintosh databases included in a

Continued on page 52

The new OS/2 can do more And all at the



Database 101 is a book that was written by Guy Kawasaki to serve as a very introductory manual to the art of database design and use on microcomputers. Guy Kawasaki is well-known to fans of Apple's Macintosh computer as the original Apple evangelist. After that, he resigned from Apple and started a company called A2Z25 whose specialty products—A2Z Databases—is a business relational database. In this book, Guy attempts to enhance the masses of people who may be put off by database guru's jargon in understanding at least a smattering of what is commonly discussed.

True to his roots, this book takes on a very heavy style right from the beginning. There are 184 pages in the book. Obviously, this might seem like a chunk of reading. However, I found that it took me about 3 hours to go through the book, cover to cover. The book's pages are filled with 18 chapters plus a Preface, Foreword, Conclusion, and 7 appendices. Each chapter begins with a "cover page" that contains a scene, the key concepts discussed within it, and a quote (which may or may not have anything to do with the concepts). At the end of each chapter there is a summary section and a "quote."

Throughout the rest of the chapter itself, you will notice that each concept shows three bits of the page. The rest is given over to white space (presumably for writing notes!) and the occasional graphic square design that appears to be a spare theme of the book. Each chapter is also filled with several sets of cartoon graphics that attempt to apply humor to the database in the text.

As to the use of humor, he is successful. Guy Kawasaki is known to the Macintosh world for his numerous weekly humor. It is one of the features that makes him a million of Macintosh fans. In this book, he tries to use humor to make things easier. There are many jokes and double entendres throughout the text that tend to add a considerable. This is particularly so in the alternative



If you've never used a modem, you probably won't want to read this article—flip the page while you still can. Too late! Like so many others, you'll soon be engulfed in that shadowy world between nightfall and daybreak—a place where time and distance lose all meaning; a place known only as...

THE TELECOM ZONE

BY GRABME BENNETT

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Finally, the new OS/2 is virtually crash-proof. If any individual application goes down, the whole system doesn't follow. Only one application has to be re-started.

All in all, you'll find that the new OS/2 is a completely new kind of animal, at once very powerful and a very popular pet with your end-users.

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Speed Zones

At every Easter bunny, modems come in a variety of speeds, from 300 bits per second (bps) to... well, how much do you want to spend?

Now that "bps" is sometimes incorrectly used interchangeably with the word "band," because it is possible that certain modems may read more than per second than the band modems they are rated at, it is clear that the terms are not always the same. We explained this complex topic in depth in the April 1991 and March 1992 issues of *The Computer Paper*.

Today's 6000- and 14,400-"band" modems can under ideal circumstances, reach data transfer rates of up to four times that rate using various data-compression and error-correction techniques. V.32bis and V.42bis are only two of a plethora of recently named standards.

Like nearly everything else in the world of computers, prices are dropping steadily. Whereas in the early 1980s, a 300-bps modem would set you back a couple of hundred dollars, today you can get a 3000-bps unit (with a modem option, if you sleep around) for half that price.

I recommend against getting any modem slower than 2400 bps these days of this speed as greater can now be had so inexpensively. Recently, 6000- and 14,400-bps modems have begun to drop in price, with several brands now selling considerably below the \$200 mark. When connected to another modem that supports the V.42bis standard, these units can realize data throughput rates as high as 57,600 bps (about).

High-speed modems from Practical Peripherals, Ingers, Power, U.S. Robotics and ATI are also highly regarded units. Prices range from about \$50 to \$100 and occasionally higher. External modems tend to cost more than internal ones which plug into a PC slot. I prefer internal models for their portability and drop-in-and-forget-it nature.

If time is money, you might consider one of these internal or external units as a relatively better investment than the slower models. Even if you only receive one The Telecom Zone as a hobby, you can save, as I know you, how can such speed.

High Speed Not Yet the Standard

Despite the wonderfulness of having a fast modem, you must have high-speed access numbers to take it into the world while. There is little point in having a fast modem if you are connecting to a slow modem, because, just like sports, the race isn't won by the fastest runner at the start line. Time, you should determine what telecommunications services you plan to use in order to decide which modems to take. (Remember, though, that the modems can slow down to talk to slow modems—you just don't want them to.)

Generally, the best modems are those with V.32bis/V.42bis compatibility. These are the fastest and most versatile units currently available.

Continued on page 52



Continued from page 50

think that comes better to the back cover of the book. The two are TrueBASIC and Fricoliter Pro (a Windows version of The Mother Fun has recently been announced). Guy frequently refers to them in good examples of what your first course should be like since he considers them as just the first obstacles that you will learn to overcome. Since he explains that you will be most likely dissatisfied with your first purchase, here's an opportunity to see these packages on before you plunk down some serious cash for a product.

The biggest question of all is whether Guy Kaminski succeeds in explaining things well or not. And whether it is worthwhile

spending the money for the book. My response is that it depends. If you are a complete computer complete idiot, quite honestly, any computer (like a book) by the terminology and the terminology, then this book is quite appropriate in your needs. It certainly does not mean that you know much of anything, it is the other hand, you are a complete computer knowledge, and have decided to take programs, then the book's main reason would be to fill in some gaps in the knowledge area. In such a case, it is still a worthwhile investment. However, if you've decided to discuss in almost any course, then the book's value is in reading Guy's writing. There is hardly anything in the text that you will

not have already known.

As to the book's title, I find that what it comes would mean Early 83 use or less use of a computer curriculum, but it is enough to justify even the "181" label. However, the name is perfectly acceptable and accurate in its intended use being sold.

Rating

TRUEBASIC, 4. This book is not target. I found myself laughing out loud several times. All of which were experiences that helped me in getting the most use of this book.

FRICOLITER, 4. It is something that the name Early enduser for this book is a computer complete. For you, this book is a

perfect.

BOOKS, 4. The book has a great layout. There is a lot of graphics that are well done. And it is not only this in detail, but also in the whole book, and this is in its own right.

ANALYSIS, 5. This book is not one of the best known guides and therefore, you may find it a bit more of a challenge. This is a shame. If they knew of their own quality and breadth of data, then it is to change. For now, however, it is not enough to find the book. ■

Contributor: Suzanne Luffin
Forthright Press, 1-800-363-6644

Telecom Zone Continued from page 51

I was disappointed that neither CompuServe or America Online have local support for 9600bps lines, although both support lower speeds. In a recent letter editorial, the president of America Online promised 9600bps access during the next 90 days. In addition, Call America Online, (toll-free) 1-800-488-8700 or 800-487-0784 for details.

CompuServe does have 9600bps access from some states, but not P.C. You can, however, get 9600bps access from the U.S. by dialing 800-515-7118. An increasing number of CompuServe customers are using BBS in U.S. phone services like CompuServe to take advantage of that country's much lower phone rates. For about \$8.00 a month, you can use U.S.-only 800 numbers as a CompuServe link.

You can also get a list of 9600bps CompuServe numbers by typing 940 FIVE55 in CompuServe or by calling CompuServe customer service in (toll-free) 1-800-488-8700 or 814-475-0800.

Online does have local 9600bps access from a few states. For more than 1000 numbers, dial 800-515-7118. You can also get a list of 9600bps numbers by typing 940 FIVE55 in CompuServe or by calling CompuServe customer service in (toll-free) 1-800-488-8700 or 814-475-0800.

To sign up for Online in Canada:

1. Get modem for half duplex (don't auto), 300, 2400, or 2400 bps.
2. Dial 1-800-571-4150.
3. As TSP or group, connect TSP11866/CD/2048.

If you'd rather, call the rates line at 1-800-488-8700 or 1-800-515-7118 for more info.

Most Link has 9600bps access from 604/576-1214, 604/485-1214 (Fremont) and 604/484-9191 (Abbotsford). Above 9600bps, 0360 gbps download.

If you have a V.120, V.42bis modem, dial 604/576-1214.

Users with an EFT modem should call 604/576-4957 or 604/278-4441, and those with a Telenet Telenet 104/768-6873.

Most BBS's office number is (toll-free) 800-488-8700.

Portable Modems

There are numerous professional modems available, especially designed for laptop and notebook computers. Many portable computers have an optional internal modem, but often, this 9600bps portables have better performance. Features or price.

Several companies make professional V.30 modems including U.S. Robotics, which makes the WorldView 1600. The company also makes WorldPro 2400, a portable V.30/V.42bis modem. WorldPro 2400/9600, a portable V.30/V.42bis modem.

Morimex 108/9154800, we published an overview column on two days. It has a modem that is similar to portable modems, a top 9600bps port with V.30/V.42bis compression and data compression and 9600bps send/receive for capabilities. Using for V.30/V.42bis, it comes with either PC or Mac software and cables, 1000 and 2400bps modems were announced at this year's spring conference. ■



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Clock Doubling

BY GEOFF WHEELWRIGHT

Life at Intel—the world's largest maker of personal computer processors—has become increasingly frantic lately.

The company has moved from the marketing market to become a market-maker itself in the design of high-speed computer chips. Intel's 486SX processor includes and has kept the whole PC market guessing, those who might be the impact of its upcoming 586SX (codenamed "P5") 60-MHz processor.

What has perhaps not had as much attention is all these events in Intel's commitment to a concept of "pushback" aimed at its customers, computer companies, processor buyers. This idea is Intel's pioneering work on "chip technology" a technology team explained in a recent bulletin.

The idea behind "pushback" is that the processor works in tandem with the system bus on the motherboard, the components to achieve maximum system performance.

On older, 486SX-based systems, the 486SX 60-MHz chip is reportedly "tuned" to go out of the "bus handshake" circuitry on the motherboard of your PC. Using any other technology to crank up the clock speed of the processor would overload the

bus handshake. On a typical 25-MHz 80486 system, frequency doubling is only using half the bus bandwidth available to achieve its performance. The lower demand on bus bandwidth is made possible by the inherent design of the 486—each in on-chip on-board cache includes design-time co-processor, in "fast burst" bus and a larger instruction "push-back" option so that continuously repeated processor instructions are sent in early batches.

By building a clock doubling onto the motherboard of the machine, the effective clock speed of the processor is doubled by increasing bus bandwidth available to support 486 processor—without requiring an "external handshake" for the system to operate with it.

In all that sounds like technological overkill, the implications of it are not. In a 486SX chip, the demand on bus bandwidth is so small an adjustment in clock speed, processor frequency, 486SX 60-MHz processor frequency to 60 MHz.

Intel's own press statement said on the matter: "The first use of the Microsoft Windows 3.0 applications automatically increased opera-

ting, managing and saving a number of Windows documents in Excel and Microsoft Word for Windows, consuming a complete third—roughly one-third of the 486 documents, transactions and large spreadsheets and creation of business graphics. Without the clock doubling, the 486SX would have copied out all these tables in 50-55 seconds. Once the clock doubling was installed, that time reduction was 50-55 percent.

The timing test involved using OpenOffice's optical character recognition system with a previously scanned document containing 100,000 lines of text when running at 60 MHz, the standard 486SX processor frequency. When the clock doubling was added, that figure improved to only 10 seconds.

Each of these tests, however, slightly showed the effect of the clock doubling because they were both fairly slow or un-demanding clock doubling, including the working to improve hard disk access times. For the first test conducted with a standard Proseus Utilities processor benchmark, those running this test, the machine

showed almost a "twofold" doubling of performance with a rating of 93.4 with the clock doubling to 60.4 score it was doubled.

By offering a single chip upgrade to previous performance, Intel's 486SX-based processor can still cheaply provide all the performance one might want to the current market where they want to buy. In fact, the installation of a clock doubling in the upgrade market provides a "fast-track" to these users.

This upgrade technology is now on offer for all of the current versions of 486SX processors (running at 16, 20 and 25 MHz) and for both the 25 and 33 MHz 486SX processors. They will ensure that you can have a 33 MHz chip to run on a blazing 60 MHz with the installation of a single extra chip.

Portable Power

From Intel's press on the double chip, however, is not the only focus in Intel's chip line. The company has over the past couple of

Continued on page 56

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Clock Doubling: How it Works

BY GEOF WHEELWRIGHT

Clock-doubling technology is exactly what it sounds like—technology which allows you to run an older chip to double the clock speed (and thus the performance) of any computer that uses an Intel 80486SX or 80486DX processor.

It works like this: a special chip socket is designed into the main board of some high-performance personal computer systems—ones designed specifically to allow users to build a clock-doubling chip. The extra onboard clock-doubling technology is that the processor works in partnership with the components on the main board of the computer to achieve maximum system performance.

By building this upgrade onto the main board of the machine, the effective clock speed of the processor is doubled—depending on how it is used. In a recent demonstration for the press of the state-of-the-art performance improvements that technology offers, Intel showed a desktop PC running a series of normal business-computer applications at improved performance rates of between 57 to 100 per cent.

Intel's idea about what this technology should be used for is not what you might imagine. It doesn't want every computer manufacturer to go out and immediately equip all their PCs with clock doublers. Instead, the clock-doubling technology is supposed to overcome the problems of obsolescence which force PC users all too often.

Anybody who bought, for example, a 33 MHz 486SX-based PC in 1987 will have had to face that many times over in the past few years—in the need for more RAM, higher processor speeds and better disk access times all put demands on their system that it could not meet. By offering a single-chip upgrade to processor performance, Intel's 486SX-based systems can still cheaply provide all the performance most people need at the moment—and when they want to log forward, the installation of a clock doubler in the special socket provides a not-so-tack-on to their system.

Intel says it expects that about 90 per cent of the clock doublers to sell at around \$300 US by the end of 1992, making it no more expensive than a word-processing or spreadsheet package. ■

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Upgrades

BY GEOFF WHEELWRIGHT

If there was ever an industry where instant obsolescence appeared to be the order of the day, it would have to be the personal computer business. Prices of new models are constantly tumbling, while the resale value of last year's latest and greatest plummeted with a frightening velocity.

But personal computer users can now take heart. All over the computer industry, manufacturers are working to slow the speed with which the specifications and performance of most personal computers are eroded by obsolescence.

The idea of building "longevity" personal computers is not new—it dates back longer than penicillin, but the trend has never been going. Even as existing is becoming first-up with being last, that these systems are out of date from the moment they are bought, while manufacturers are continuing under the huge weight of microchips competing throughout this crowded sector.

Today's future-proofing is carried out by making PC upgrade easier to upgrade. If you choose the right computer, you can now even easily add more computer memory, improve the speed in which it operates, add connectivity to the universe of information

it can store—and make the system even crisper and easier to read—all without replacing your existing system.

The ability to make performance improvements has been raised within the PC design of the IBM personal computer in which almost all popular PCs are now based. But it is only in recent times that it has become economically sensitive and technologically feasible to do so.

Most PCs come standard such what are called "expansion slots." The traditional IBM PC design required you to install all performance-enhancing circuit boards in these slots—which were limited in the kind of performance and capacity improvements they could accommodate.

Today's PCs offer specialty upgrade plug-in slots that upgrade the performance of each upgrade that you carry out. Computer memory, for example, is primarily added through SIMM (single in-line

memory module) that are easier to insert and offer higher performance than memory held on a memory PC expansion board.

The most difficult area of personal computer performance to improve has long been the computer processor itself—the "engine" of the system. Just as you can't put a bigger engine in a VW Beetle, you can't use an equally low expansion card to keep old PCs based on the Intel 8086 processor from using the latest 80486 processor.

There have been two solutions to this problem. The first came in the form of pre-built "upgradable" personal computers. These have designed from the start to use a variety of different computer processors by swapping certain components.

Second, leading PC makers, Compaq, for example, have introduced a whole new range of extensible PCs. Compaq called this design "scalable" modularity and it goes beyond what most manufacturers

mean when they say their PCs can be upgraded.

By swapping certain components in its systems, Compaq will let users upgrade the latest range of desktop machines (the Deskpro 34 series) from modestly powered machines using the 33 Mhz version of the 80486 computer processor to those using the much faster 55 Mhz 80486DX. The speed of computer processor used in desktop systems is constantly measured in Megahertz (MHz) and the faster it is, the better the chances of 80486 it will be rated as. This figure is also known as the clock speed.

Like most manufacturers designing upgradable systems, Compaq has also equipped all of its "scalable" desktop desktop technology designed to top computer processor manufacturer Intel, of Santa Clara, California.

(See Clock Speed, page 14—Ed.) ■



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Newsbytes

Apple Shows First Newton At CES



CHICAGO, ILLINOIS, MAY 10 (ISI)—Apple is showing off Newton at the Consumer Electronics Show (CES) in Chicago, a product Apple CEO John Sculley introduced personally at the Illinois City on Las Vegas site this year.

Newton is actually a part of a product line that Apple calls Personal Digital Assistant (PDA) electronic devices. The first Newton is an electronic notepad which Apple hopes will allow users to organize their lives by capturing, organizing, and communicating ideas and information.

Apple says its goal is to make the Newton as easy to use as a pencil and paper. Newton will use technology similar to handwriting recognition, but Apple says the difference is essential difference in capturing technology will come from the user's own handwriting, rather than out to a user. Apple gives the example of a business person who writes "Lunch, June 15, Monday" on the Newton, which the Newton would interpret as more than a 15:00 p.m. June 15, June 15, June 15, and Thursday is the Thursday. The Newton would make three assumptions and ask the user to confirm by opening a calendar and scheduling lunch from 12:00 to 1:00 with June 15.

Sculley says that of information, phone numbers, business cards, addresses, meetings, notes, newsletters, appointments, and all the handled by the Newton, Apple said. But more importantly, users can use the information for everything that relates to a specific place, work, or subject such as "June 15, 1982."

Also, when and where communication skills will allow the Newton users to electronically exchange business cards or company calendars, Apple said. Using a laser scanning technology and sensors, or connecting to a mobile phone network, or other peripherals, the company added.

All the technology help will be brought to users in portable form via a reduced 80486 chip (80486 from Advanced Micro Devices (AMD)). The processor, the ARM 410 processing the Newton's appli-

ca, has the power of a desktop computer, but uses less battery power than a flash-light, Apple said. Intelligent cards will be the vehicle for users to get specific functions in the Newton. Apple expects these electronic devices designed for portable functions are cards such as the "Things To Do" which has functions such as date and billing available on electronic cards.

Apple and Sharp announced earlier this year the agreement between the two companies to jointly design and produce the Newton devices. Also, Apple says it is forming Newton technology in related markets, including Sharp, who are planning to produce their own version of the PDA.

Apple says a number of major companies have said they will support Newton and will develop complementary products. Apple is named Motorola, Pacific Bell, BellSouth, Texas Instruments, and Telsat. The general areas of complementary development are in communications for use of the Newton in a mobile environment, content products in increasing and personal information products, and computer-aided design for using Newton devices with existing computer system devices which.

The first Newton will be AppleLink package announced and are expected from Apple and Sharp in early 1983, Apple said.

As the name says for the success of the Newton, a new and the Apple PDA (Personal Innovative Electronic) will be constructed as new technologies and products in the fields of computers, communications, entertainment, and consumer electronics.

The PDA division already has 100 employees and has a research facility in Cupertino, Calif., according to Sculley. The division is in a new programming language called Dylan, designed for use with portable electronic devices and software.

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New For Mac Aldus PressWise 1.0

SEATTLE, WASHINGTON, MAY 22 (AP)—Aldus Corporation has released Aldus PressWise 1.0, a page imposition program for the Macintosh computer.

PressWise provides page-handling and imposition tools for the original and production artists. With PressWise, those professionals can layout stories on PageMaker or QuarkXPress files from the desktop, says Aldus. For example, you can merge the pages of multiple publications and save them in a special crop line job.

PressWise is intended for applications that utilize electronic page layout and imaging tools to create printed documents. Commercial printers, service bureaus, in-house printers and other business printers all will utilize the program.

PressWise also professionals can impose multiple pages into a commercially acceptable imposition and select

parameters. The pages are then arranged in the correct order and orientation (portrait or landscape) for printing. The user can also design their own library of templates to meet their particular needs. A reduced view of the imposition then provides visual feedback.

PressWise carries a price tag of \$9.99, and is available directly from Aldus. It is also being included as part of a complete desktop system from some integrator manufacturers.

Aldus recommends an Apple Macintosh II series or a Quadra 700 or 900 running System 7, at least one megabyte of RAM, and a hard drive. The company says PressWise will run on a Mac Classic with the Mac II memory and drive configurations.

Contact: Aldus Canada, (800) 271-4140 or 1-800-322-2028

Apple Unbundling Future System Features

WINNIE, AUSTRALIA, JUN 1 1992—Apple Computer is introducing a new "module" approach to its system software for the Macintosh which could see some users paying more than others than they pay in the United States.

For years, Macintosh operating system software upgrades were distributed free, but a change was made with the introduction of the current System 7. While the software itself was still for download, future changes were bundled together, a package of new software to be sold through retail channels in most countries. In Australia, the license, the price, approximately \$1400.

Two weeks ago Apple launched two of

what is to be a series of separate modules, each with a price greater than the operating system itself. Some of these modules may be built into future system software releases. These new modules are a QuickTime Movie kit and a PC Package development kit.

A prior addition was the AppleTalk Remote Access pack. An electronic mail module is believed to be in preparation.

An Apple spokesman said the new modular system would ensure faster delivery of new technologies. He also said that users would only have to pay for the components they wanted, and would not have to load the system with unwanted software, making the "mass customization."

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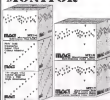
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CAD NEWS

Autodesk Announces AutoCAD 12, New Direction

DALLAS, TEXAS (JUN 98) —Autodesk says it is not only releasing a new performance upgrade to AutoCAD, version 12, but is also introducing a new direction involving an open-market approach for the company. The announcements were made at the A/E/C Systems '92 show and Autodesk Expo in Dallas, Texas.

Autodesk is also developing a platform-independent dialog system for AutoCAD to a standard which has diverse platforms. The product comes up as, a flat-a-panel look and feel, Rand said. That's one of all platforms except DOS, where the company had to develop its own graphical user interface, Rand explains. AutoCAD Release 12 is a DOS-based system, however Rand says version of Release 12 that accommodate the other platforms, such as Macintosh, are expected soon.

Release 12, in general, simplifies and speeds up the most frequently used CAD functions, the company said. One hundred and seventy-four enhancements, including improved plotting, and extensive interface support for structured query language (SQL) and Postscript data exchange, enhanced rendering, on-screen drawing tools, and bidirectional file compatibility with AutoCAD Release 11 are in Release 12, Autodesk said.

The company says Release 12 has fewer levels of zoom levels, drawing regeneration was improved and virtually eliminated, auto-extensions, object snapping and entity display and hidden line removal are quicker. New functions that command a slow a user to enter a new drawing and begin work immediately and customers can work in a smooth state by first releasing capabilities then applying the operation is performed.

A new AutoCAD SQL Extension has been added (ASE) to help can be created with external database and database management systems such as dBASE, Paradox, dBaseIII, and Oracle. Support for the real-time, and display of Postscript files is also included.

Modeling is improved in Release 12, Autodesk said. With the functionality of AutoCAD, and the appropriate hardware, users can create either 2D or full 3D wireframe images of any AutoCAD 3D entity, including Advanced Modeling Extension (AME) solid models, from within AutoCAD.

Release 12 for DOS 386 or the Sun Sparcstation is retail priced at \$24,900. AME is another \$594, the company said.

Rand noted about the future of Autodesk, specifically on the way of the product for maintenance expenses on large machinery. He said he is looking to replace with a job computer could call up a particular notebook and then require the accessibility of a camera system to demonstrate on the display screen. Rand says there is no reason why video clips of equip-

ment repair couldn't be made and stored for display later. Also, if a critical piece of equipment breaks down, Rand said that would be a good opportunity to do repair work on other related pieces of equipment that are dependent on the down unit, said the computer could display that information as well.

Geoffrey Autodesk Canada Inc. 1-800-441-5415 or 416-548-0525

AMIGA

Digital Multimedia Takes Over X-CAD For The Amiga

BRISTOL, BELGIUM, MAY 25 (ENR)—X-CAD, the computer-aided design package for the Commodore Amiga 386 series acquired by the UK-based company Digital Multimedia Inc. X-CAD now provides market by ART, which has given some leads.

Developers spoke to Richard Nolan, the sales and marketing director of DMI, who said that the new version of X-CAD would be available in the next two weeks. X-CAD

2000, the entry-level package which offers both 2D and 3D modeling and will sell for US\$1195, and X-CAD 3000, which has more options and will retail at US\$1595. Distribution in the United States will be handled by American Software (tel 3400-325-7941).

Contact: Digital Multimedia Europe, 40 Beekmans 1980-Hertford, Enns, Belgium Tel +32-2-851-5810 Fax +32-2-851-5812

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Globe Information To Market NewsEdge In Canada

TORONTO, ONTARIO, MAY 19 (PR)—Globe Information Services, the electronic publishing division of the Toronto newspaper The Globe and Mail, will market NewsEdge, a newswire/distributing package for PCs running Microsoft Windows, in Canada.

Globe Information announced a marketing agreement with Desktop Data of Waltham, Massachusetts, the developer of NewsEdge. NewsEdge is available in Canada now through Globe Information Services, and the first customer is John Lahart, the Toronto literary critic who is to launch the product within days, according to Douglas Huhls, manager of marketing and business development at Globe Information.

NewsEdge captures news from an electronic news feed such as that provided by Desktop Publishing Services from Globe and Mail's News Network. Such news can

be fed in as many as 25 profiles that select the news items of interest to those. NewsEdge can then display headlines of relevant news stories on the computer screen, and can be set up to sound an alerting beep when no important story is received.

NewsEdge also creates a database of news stories on the user's computer, making it possible to search the full text of the stories for key words and phrases, company officials said.

NewsEdge will work with a variety of news services provided by Globe Information Services or with other services available from third parties, Huhls said.

The software can run in the background under Microsoft Windows while a user is doing other work on the PC, he said.

Distribution: Globe Information Services, tel 416-962-3674, Desktop Data, tel 617-493-0645.

Crystal Offers Report Writer For ObjectVision

VANCOUVER, BC, MAY 19 (PR)—Crystal Services has launched Quick Reports for Windows, a database report writer and print manager that works with Borland International's ObjectVision. Book Creek Services and Desktop are selling the package, a company spokeswoman said.

According to Crystal Services, Quick Reports is a database report writer and print manager that works with Borland's ObjectVision and Paradox, and produces reports, forms, and letters. Users design reports in an interactive report processor by placing fields on a template. Quick Reports can insert totals and calculated fields, the company said, and it will set sort and selection criteria on records and groups. A preview facility lets users view their reports before printing them.

When users create an ObjectVision application file, Quick Reports will automatically recognize all of the application's databases and build links between them, the company said. Once designed, reports can be called from within an ObjectVision

application.

The Quick Reports Print Engine dynamic link library (DLL) lets application developers "link" Quick Reports dynamically to their applications, officials said, and the print engine can be called from any Windows development tool.

Quick Reports 1.0 is available now, company spokeswoman Shoshana McDonald said, at an introductory price of \$199.95.

The suggested retail price will be \$199 after the 60-day money-back period, the added Microsoft packages are available at \$299 for the users and \$329.95 for IS.

Eighteen-year-old Crystal Services is best known as a developer of accounting software products that work with Computer Associates (International) i-Accept accounting software. Its products include Quick Reports for i-Accept, a report writer for the CA accounting software.

Contact: Crystal Services, 804-681-0433, 416-642-7444.



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PC CONNECTION

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PERSONAL COMPUTERS

Tandy, Casio Collaborate On New Personal Info Processors

PORT WORTH, TEXAS, MAY 26 (UPI)—In a move that the two companies claim signals a major advance in the new generation of personal, portable information processors, Tandy has announced that it has agreed in principle with Casio Computer Company Ltd. of Tokyo, Japan, to work together in design, development, manufacture, marketing, and distribution of a new family of "Personal Information Processors."

Tandy and Casio say they expect to set the pace for the emerging market of handheld, portable information devices, by combining their respective technology and distribution systems.

The two companies will be joined by Co-Intel and Palm Computing in the project.



port. Co-Intel will supply its 68000 operating system and Palm Computing Inc., will supply applications software. 68000 is an open architecture, object-oriented, graphical operating system which supports a wide range of input devices, including the pen.

Tandy said that 68000 is an ideal computing core processor for its own family of devices, while Palm Computing has extensive experience in easy-to-use, pre-installed systems. The PalmPilot handheld computer, developed for Co-Intel's Palm OS PDA computer, will be used for this project.

Casio's Rich Chigusa will head the development of the PalmPilot system at Chigusa's residence.

Contact Tandy Corp., 817-865-3440

Fujitsu Renames Poqet Computer

SANTA CLARA, CALIFORNIA, JUN 1 (UPI)—Fujitsu Computer in San Jose, Fujitsu, which dropped last month the palmtop computer brand, now clearly brought out the dominating entity officially rebranded the company as Fujitsu Personal Systems, part of its \$2 billion personal systems group.

From the beginning, the Poqet was a controversial misfit. Its light weight came at a price. Its high price—about \$1,000—was a major drawback. The company's leadership, which was based on sales, said its limited capabilities have it among buyers.

Recently, the company has had to work hard to attract interest from computing applications, adding window modes and adding to the Poqet Communicator Computer. But its market share remains low.

Fujitsu said it will continue its strategy leveraging the company's personal general management technology for success on the field of communications and mobile workers applications, such as data collection, data processing, field service, and electronic messaging.

Contact Fujitsu Canada, 416-892-8888 or 1-800-282-8718

Zenith Intros Two PC-compatible Pocket Organizers

CHICAGO, ILLINOIS, MAY 26 (UPI)—Zenith Data Systems (ZDS) introduced its two new pocket organizers at the Consumer Electronics Show in Chicago this week.

ZDS said the ZDS-100 and the ZDS-1000 will be sold through computer merchandise and specialty retailers. The 100 has 64K of memory while the 110 has 128K. The two units can store telephone lists, business card files, memos, appointments, schedules, expense reports, and other information. Users can transfer info into a word processor, spreadsheet, or other software to work with. Once you return to your office, you can use the included cable to upload the information to your PC.

ZDS said the organizers both have a built-in calculator, calendar and an alarm clock. The 100 comes both boxed and boxed. They can also do numeric, currency and clocking time conversions.

Powered by three AAA batteries, the organizers weigh just under 30 ounces, and

measure 3.1/8 by 4 by 5/4 inches. The black-and-white LCD display in 16 colors can hold 16 lines. High at 1/2 inch, ZDS-1000 is thinner than the four screen keys, top and bottom screen keys, and right-hand side keys. A bottom-type keyboard is on the case in four words provides memory backup while the three AAA batteries are being changed.

ZDS spokeswoman Johna Reed said. However, she said the organizers keep entire program books to select various functions. For example, one function key would create the list to launch the calendar, while another would launch the notepad program. There is also a menu key, said Reed, that opens a different set of icons for the display.

ZDS said the 100 will sell for \$199, while the 110 is a price tag of \$299. Both units are scheduled to ship in September.

Contact Zenith Data Systems, 800-888-8887

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New Spreadsheet For Psion Series 3 Pocket Computer



Macintosh. However, the software, some commands are different.

The software includes financial, non-financial, logical, range, string, logical, database, and table functions, according to the manufacturer. It also produces graphs and charts, which can be used for inclusion in documents with other applications packages such as word processors.

Timing advantages of the Series 3 micro-embedding capabilities, the spreadsheet can run in the same time as other applications.

Windows can be as large as 256 rows by 65,536 columns with the additional feature that the screen can go up more than 40 sheets (256 of memory). The Series 3 spreadsheet will fit options on the screen of the Series 3 computer with only 128 KB of memory.

The software has a list price of \$199.

Contact: Compix, 814-585-0555

MONTREAL, QUEBEC, JUN 5 (AP)—A new spreadsheet package for the Psion Series 3 pocket computer reads and writes Lotus 1-2-3 spreadsheets, according to Compix, Canadian distributor for Psion.

Psion developed the software, described as "fully compatible" with 1-2-3. Patrick Taylor, vice-president of sales and marketing at Compix, said the package can read and write Lotus 1-2-3 files downloaded to the pocket computer through its serial port from a DOS PC or from an Apple

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WINDOWS 3.0 PC MPC Starter, Upgrade Kits From Creative Labs

MELTAN, CALIFORNIA, JUN 1 (AP)—Creative Labs, makers of the Sound Blaster and Sound Blaster Pro sound cards, has announced a new, improved Multimedia Starter Kit, and a lower price and additional software titles for its original Multimedia Upgrade Kit. Both kits are for the upgrade of an IBM or compatible personal computer (PC) to a multimedia personal computer (MPC).

The new Starter Kit includes everything that is in the more expensive Creative Labs Multimedia Upgrade kit except the general multimedia digital functions (MDF) and the large library of programs discussed only recently (CD-ROM) titles, and it retails for \$199.95, Creative Labs said.

The Sound Blaster Pro stereo sound system, an internal CD-ROM drive, the Microsoft Bookshelf Reference Library and the Sound Blaster Pro reference kit were not included in the Starter Kit, Creative Labs said.

The CD-ROM drive in the starter kit is a volume control and power jack on the drive panel. The drive connects to an interface on the Sound Blaster Pro and the data transfer with the PC and audio comes from the sound card, as both the card and the CD-ROM are designed to be compatible with the PC. The CD-ROM drive meets the MPC standard for performance with a 44 kilobyte (KB) buffer and a 150 KB per second data transfer rate, Creative Labs said.

The company said the Sound Blaster

Pro includes a stereo digital/analogue mixer, a four-speaker FM speaker card for 32 voices, recording sampling rates from 4 kilohertz (kHz) to 44.1 kHz, a built-in amplifier, a volume control, and microphone and stereo line-in jacks. Software included with the Sound Blaster Pro allows the hardware application to make or make recording and editing, integration of sound with graphic animation, and control of animated audio CDs, Creative Labs added.

The Upgrade kit has been reduced to just \$199 from the suggested retail of \$299. An additional five multimedia titles have been added as well. Macromind, a multimedia presentation package, AmigaWare Plus, an authoring tool, Multimedia Works for Windows from Microsoft, and Tempus, a professional graphics and presentation system are all included now in the improved Upgrade Kit. Already included in Multimedia Windows 3.1, Microsoft Bookshelf, the Microsoft Windows Consulting Reference multimedia guide, Creative Labs' professional video clips, and a collection of sound clips with digital/analogue digital functions (MDF) files called Creative Labs' Clips are.

Creative Labs also has the distinction of being the only software driver for the Sound Blaster Pro and Sound Blaster cards inside on Microsoft Windows 3.1. The new Starter Kit is expected to be available June 15, Creative Labs said.

Contact: Creative Labs, 404-428-0000

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"Big Fish" Borland Threatening dBASE Pond

TALLEY, CALIFORNIA, JUNE 1 (PR)—Borland has filed suit and threatens to sue dBASE company when it was the biggest fish in the dBASE pond after its purchase of Software Time, but when the company's suit has changed with the addition of new data-base users. The change appears to be demand for dBase, which recently announced it is creating the dBASE arena with the purchase of the Software Time.

Borland announced a law finally officially dropped the copyright suit is prepared to stop open to purchase of Software Time, the company conflict with the development of the business software product dBase. Software Time was preparing for Software Time to the future Open Operation in order to meet legal limits that appeared would continue for years.

Under the terms of the Borland purchase of the dBASE pond, the U.S. government awarded Borland a copyright suit. Software Time was preparing new copyright infringement. Borland's President, Philippe Kahn, had already publicly announced the intention to do just that before the government requirements to do so.

**Borland may be trying to
walk a tightrope between
fending off a suit filed
against it by Lotus and
keeping Microsoft at bay.**

The threatening suitcases even in the area where Borland announced. Kahn specifically said that he was in contact with Microsoft on an ongoing basis of the dBASE standard by its purchase of Software Time. However, in the same paragraph of the announcement, Borland claims nothing in the U.S. government requirement that it drop the Software Time suit affects its copyright in the dBASE product.

Further, Borland says the court quickly confirms that nothing in its practices in both seeking copyright infringement actions while respect in all other aspects of dBase programs. Borland also is warning everyone that the court does not require in the full measure of its due of duty.

Borland in fact had these responses: While more open might be considered the best of the best than the terms of dBASE. However, was originally developed as Jet Preparation Late in Products.

Borland also went out of its way to say that published reports that the court puts down the dBASE product in the public domain were incorrect.

Borland says he is trying to walk a tightrope between fending off a suit filed against it by Lotus and keeping Microsoft at bay. Kahn said that the suit that Software Time/Borland was in very similar to the Lotus suit against Borland.

In its recent court, Borland took the opportunity to reveal its position that means some and commercial structures are designed systems that are not proprietary under copyright law. This is a violation in the light of the company's long-standing legal fight with Lotus, engaged to go to trial this year under which Lotus is claiming Borland's Quantum Pro software on its Lotus 1-2-3.

While many agree with Borland, Lotus has already won a similar suit against its Brown Bag Software, which paid up and dropped its 1-2-3 trademark product.

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Mystery of the Missing Colors

Q I recently printed color separations from my DTP program and, although the text printed and test colors printed correctly, all of the colored-color pictures came out black and white. (I believe I printed a color laser print of it, and everything looked fine. Why?)

A Your color areas printed in color but didn't separate because most page-layout programs (including PageMaker, QuarkXPress and the standard software of Windows Publisher) cannot do their own separations of RGB color TIFFs. This explains why everything but the photos appeared and why the photos looked like on-screen.

PageMaker 4.2 for the Mac does include a PrePress, a separation utility. Quark users can use an add-on called Separations, or Adobe Photoshop to produce the CMYK (cyan/magenta/yellow/black) TIFFs, or ICG's (Imaging Color)

separations EPS files capable of being separated from within the program.

To further complicate the issue, because a color printer separates a single color image (i.e., one separation), it prints the colors correctly but probably not (but don't wonder why).

The best way to accurately proof color separations is to have three color lay-out masters. There are several different color proofing technologies, including IM's Macintosh and the Postscript Colorcube. We've now called Chromacolor; there are others.

Using a Chromacolor another printing trick separation layer on done screen in the actual ink color. It is supposed to be, then, matching the two layers together. When you place the color proof on a sample of the paper stock you will be printing on, you get a reasonably close approximation of how the final printing will look.

Q What does it mean when a microprocessor is said to be 33 MHz or 33 MHz? Why is a 33 MHz 386 faster than a 33 MHz 486?

A MHz (megahertz) means "millions of cycles per second," and refers to the speed of the clock in the central processing unit (CPU).

The faster the clock, the more computational instructions the CPU can process per unit of time. However, a 386 has many functions (i.e., it made comparisons, etc.) built into the chip, and so, on a per-function computational instructions more efficiently. In a 33-MHz 386 will almost always outperform a 33-MHz 486. See *Quick Reading* in this issue for more details.

Q What is a PC?
A What is a real VDU card?

A VDU (pronounced "you-uh") stands for video display, a keyboard or mouse is an input device, a printer or scanner is an output device. A "real VDU card" usually means a PC already has a built-in video card (and joystick port) on it. Parallel is a common method of connecting a printer to a PC (the Mac uses serial port for connecting printers); a serial VDU and a serial port can be used to connect a monitor, mouse, etc.

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HP Offers New Color Workstations Priced Under \$10,000

PAULO ALTO, CALIFORNIA, MAY 19 (AP) — Hewlett-Packard (HP) is introducing two new color workstations, priced under \$10,000 and geared directly at competing systems from Sun Microsystems and IBM.

The new models, the Model 700 and 750, are available in the Apple II/III and IBM family of PCs. HP's (NYSE:HPQ) workstations are priced at \$9,800 (without installation) and \$10,000 (with installation). HP is going directly where Sun, IBM and other price/performance comparisons and competitors.

HP says the Model 700 is equivalent priced at less than \$1,000 less Sun's Sparcstation IXT. However, the company maintains that a typical configuration with a 40MB magnetic disk hard disk and 10 MB of RAM offers 70 percent greater graphics performance and nearly 60 percent more performance for the price than the Sun IXT.

HP added that the new configuration compared to the IBM R3, 4000 offers 30 percent greater performance, 400 percent greater graphics performance, and is priced at \$200 less.

The Model 700 can be found upgraded to the Model 750, something Sun and IBM cannot do with their comparable workstation systems, HP maintains.

Competition in the workstation market is heating up, as Sun recently announced price reductions for its workstations. According to market research company Datamark, Sun has three of the top five selling workstations, but both IBM and HP hold a ranking in the top five. HP's Model 400 is in number of the top five selling workstations, Datamark said.

Contact: Susan Portant (Circuit) Ltd., 416-254-8000

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VIM—Cross-platform Mail, Messaging Standard Available

CUPERTINO, CALIFORNIA, JUN 11 (AP)—Software developers can now get a tool to help them with cross-platform development of mail and messaging software. Version 3.0 of the VIM—Inter-Applications Messaging (VIM) interface specification is available, according to Apple, Borland, Microsoft, and Novell.

The companies say the purpose of the specification is to standardize the way the software developers to write a different software module to accommodate each computer system and messaging platform the software can run on.

Each company is now offering the specification in one package to anyone who requests it. Each of the companies is providing technical support for its developers implementing the VIM specification. Software developers will need to get the specification document itself to get the information for support, the companies said.

The companies said they hope to promote a proliferation of commercial and industrial applications that incorporate mail, personal, and to help system communications for computer users.

Apple, Borland, Lotus, Novell, and IBM have all announced their intentions to support the VIM interface standard in future products.

Specifically, Apple says it will support VIM on Macintosh, and Borland says VIM support will go into its Object Exchange (OOX) messaging. Lotus plans to place support VIM into Lotus ccMail and Lotus Notes products, and Novell says VIM support will be incorporated into Novell GroupWise GroupWise and Novell Mailbox 3.0. Microsoft, says it will support VIM on its Office product settings.

Contact: Apple Computer, 408-518-5781; Borland, 408-228-0500; Lotus Canada, 416-976-0000; Novell Canada Ltd., 800-486-0044.

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3D Micro opens Montreal Office

Not all businesses are on the run from Quebec. 3D Micro, a leading supplier of IBM-PC compatible in Canada, attracting a recent from Sun Research report, has opened an office and workstations in Montreal. According to company officials, there are 3500 square feet facility enables 3D Micro to handle under 24-hour delivery throughout Quebec and offer better service to their clients in the Atlantic provinces. The new office is located at 5755 Avenue St. Remond close to the Dorval airport and is the sister of St. Lawrence's high technology center.

Cheryl Strong, 3D Micro's Vice President of the East, says the St. Lawrence office is a key in the company's expansion plans. "We have been active in the Quebec market for the current years through several companies. By opening a Montreal office, we hope to raise the profile of 3D Micro in the computer area of Canada. The French Canadian market represents a very significant segment that we would like to focus on now."

Contact: 3D Micro Montreal, 514-399-0000

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CARDZ BBS Starts Coming Into Focus

Cardz has added more lines, now 27 in all, and John Smith has watched the first rack of US Robotics Dual Standards. Paying customers say they are much gratified by the easier access to John's popular board, and we'll have even more lines soon.

John recently used his BCTT training to add device independent video support to ProScreen, the real time graphics program Cardz has developed. Everyone wants to know how he did it, but they'll have to wait until ProScreen's unveiling at August at the annual BBS convention in Denver. The new version featuring Kai Laurinoff's improved interface is awesome! Real estate VARs are drooling...

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